OBSTETRICAL AND GYNECOLOGICAL NUMBER

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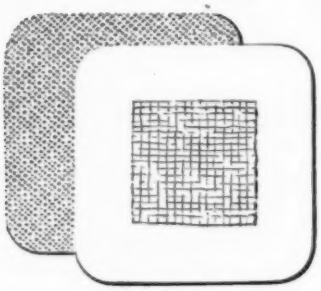

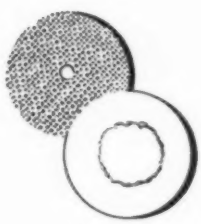

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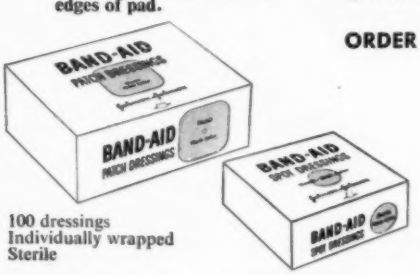

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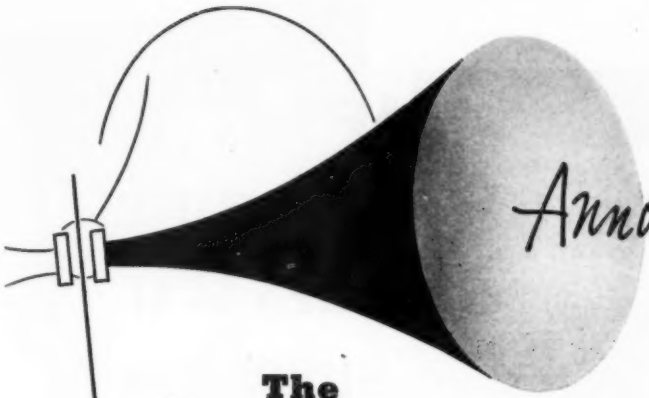

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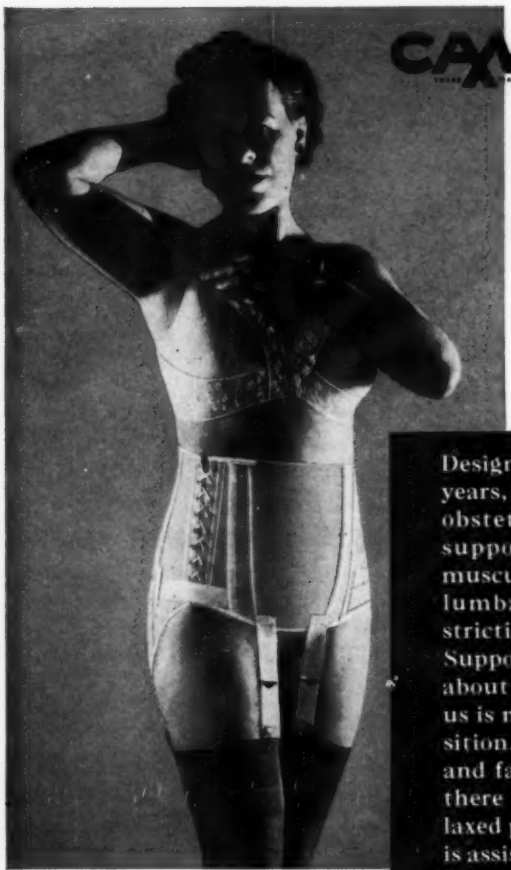

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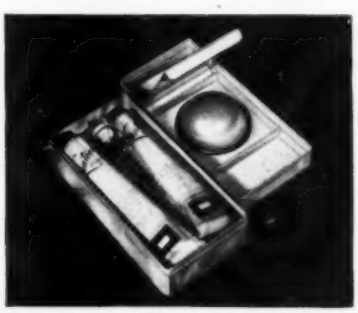

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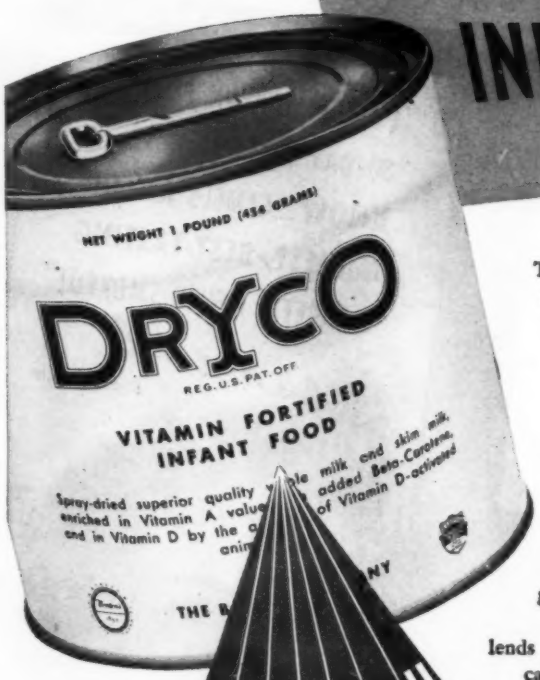

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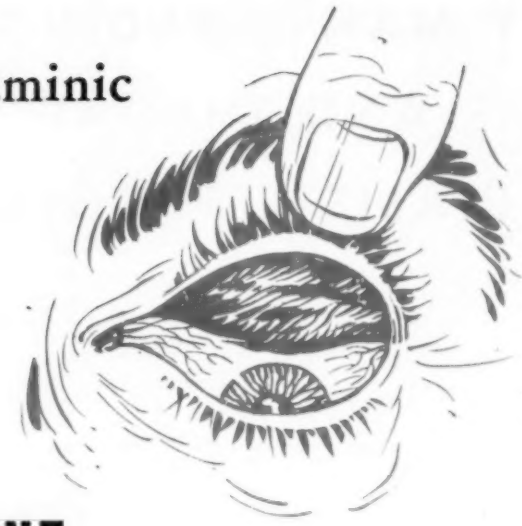

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Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; *Laryngoscope*, Jan. 1937, Vol. XLVII, No. 1, 58-60; *Proc. Soc. Exp. Biol. and Med.*, 1934, 32,241; *N. Y. State Journ. Med.*, Vol. 35, 6-1-25, No. 11, 590-592.

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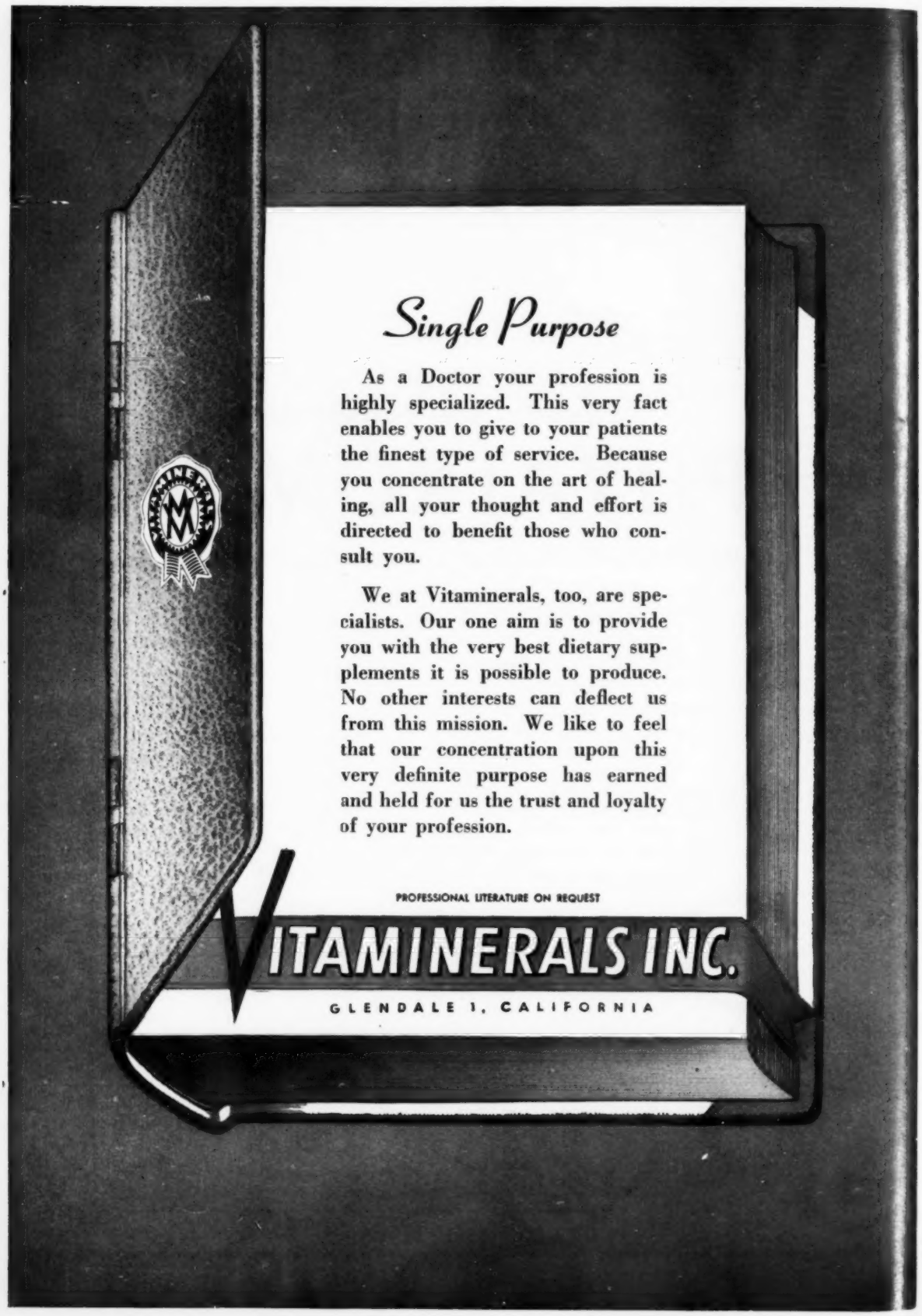
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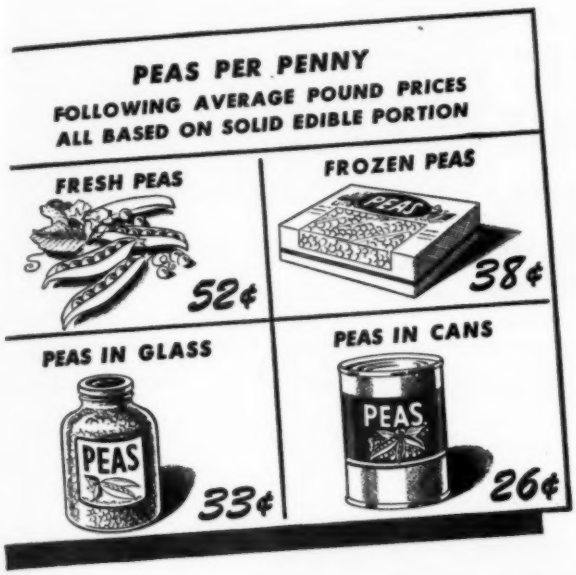

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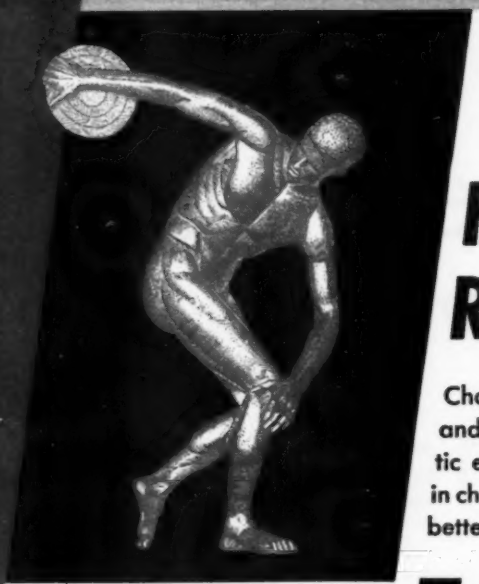

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BIBLIOGRAPHY

(1) Magnuson, P. B.; McElvenney, R. T., and Logan, E E.: J. Michigan M. Soc. 46:71,1947.
(2) Snyder, R. G., and Squires, W. H.: New York State J. Med. 40:708, 1940.
(3) Cohen, A., and Reinhold, J. C.: Indust. Med. 17:442, 1948.
(4) Farley, R. T.; Spierling, H. F., and Kraines, S. H.: Indust. Med. 10:341, 1941.

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Controlled Study

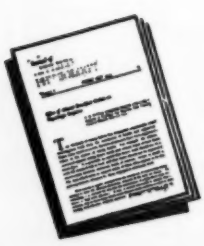
CONFIRMS IMPORTANCE OF

Morning Meal

A study* recently concluded at the Departments of Physiology and Nutrition of the college of medicine at a distinguished university established that the value of an adequate breakfast, as recommended by nutrition authorities, is definitely reflected in maximum work output and mental acuity during the pre-noon hour.

It also demonstrated that the long continued omission of breakfast detrimentally affects maximum work output, simple and choice reaction time, and neuromuscular tremor.

Under adequately controlled conditions data were collected on the effects of four different breakfast habits on the maximum work output, mental acuity, and neuromuscular tremor of six young women ranging from 22 to 27 years in age. The breakfast habits investigated constituted habituation to an 800 calorie breakfast, effects of which were considered the critical standard, to no breakfast, to coffee only (1 cup of coffee, 1 ounce of cream, no sugar), and to a 400 calorie breakfast.



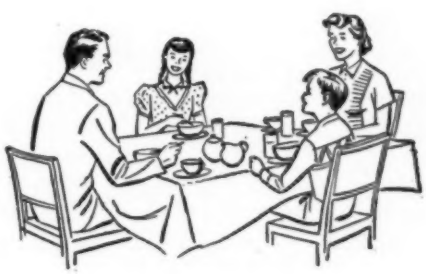
*Reprint of the study referred to will be sent on request.

From the data gathered the following conclusions were reached:

1. When "no breakfast" was the morning habit, maximum work output showed a significant *decrease*, while a notable *increase* resulted in simple and choice reaction time and in tremor magnitude.
2. Habituation to coffee only showed a similar *decrease* in maximum work output, with corresponding *increase* in reaction time and in tremor magnitude.
3. When habituation to the 400 calorie breakfast was accomplished after the "coffee only" period, a significant *increase* over the findings in the "coffee only" period in maximum work output resulted and both simple and choice reaction time as well as muscle tremor magnitude showed a noteworthy *decrease*.

The authors point out that no direct comparison could be made of the physiologic responses during the 400 calorie and 800 calorie breakfast periods, because the breakfast period of "coffee only" occurred between the 800 calorie and 400 calorie periods.

This controlled investigation now provides experimentally established support for the widely advanced admonition "Eat an Adequate Breakfast." For, though the authors do not draw this conclusion, it may well be reasoned inversely that maximum work output should be increased, and mental acuity improved, when faulty breakfast habits are replaced by the eating of an adequate morning meal.



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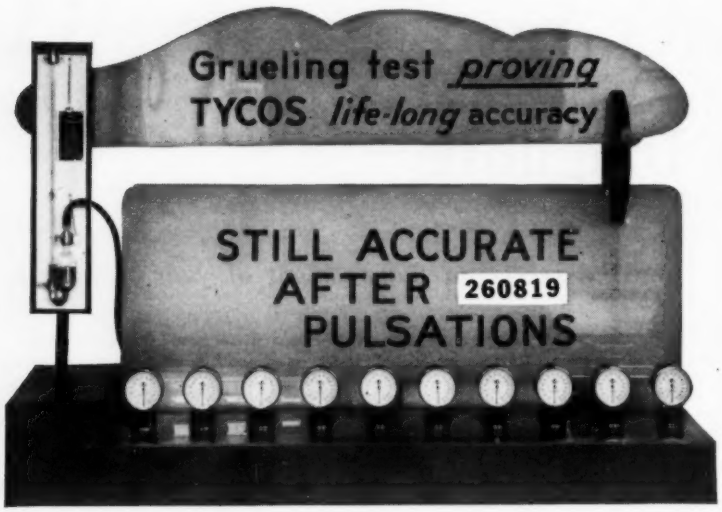

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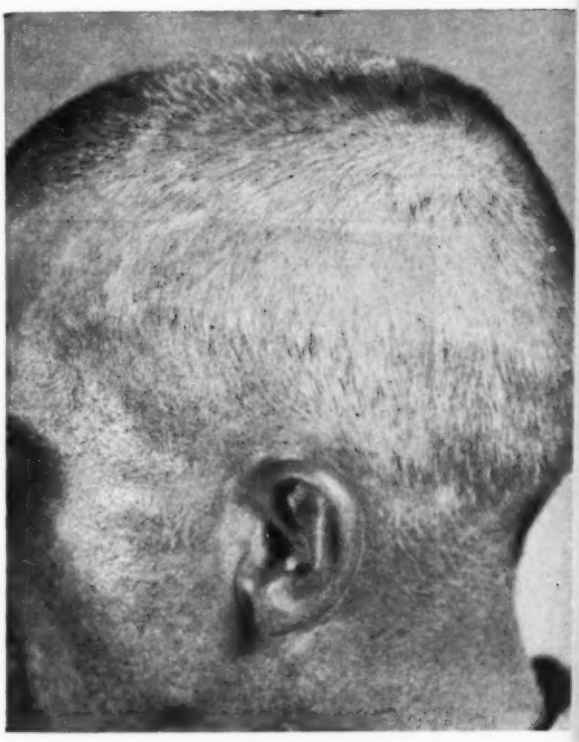

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1. Ricketts, W. A.; Carson, R. M., and Saeks, R. R.: Am. J. Obst. & Gynec. 56: 955 (Nov.) 1948.

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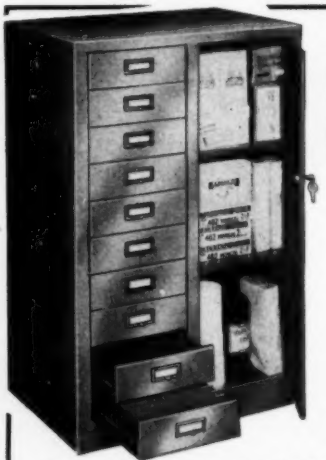

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VITAMIN A	208 I.U.	444 I.U.
THIAMINE	0.05 mg.	0.17 mg.
RIBOFLAVIN	0.08 mg.	0.30 mg.
NIACIN	0.5 mg.	1.0 mg.
ASCORBIC ACID	3.1 mg.	4.4 mg.
VITAMIN D		62 I.U.
PROTEIN	2.9 Gm.	4.7 Gm.

*Based on average reported values for milk. Three servings of Ovaltine, each made of ½ oz. of Ovaltine and 8 fl. oz. of whole milk, the daily dosage recommended for diet supplementation, provide 676 calories.

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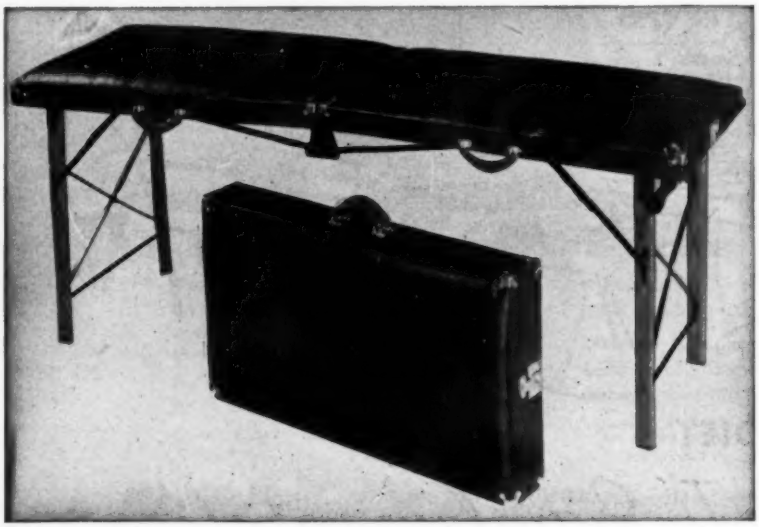

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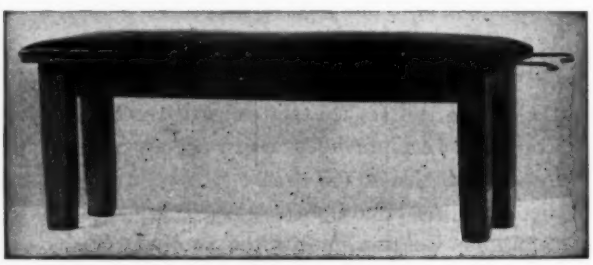

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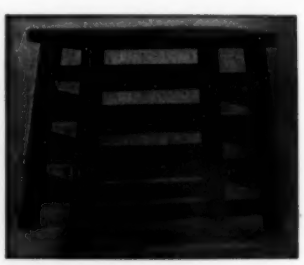

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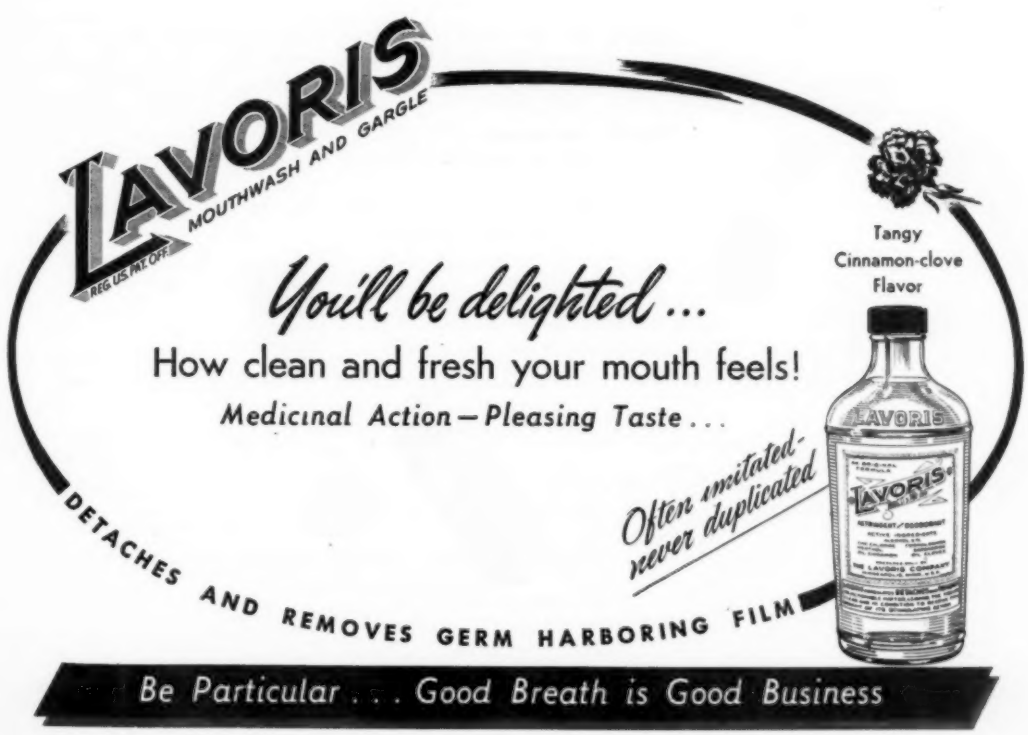
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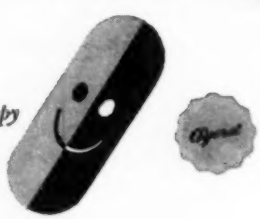

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Posture and Perverted Physiology*

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Montreal, Canada

Posture has been defined as the attitude assumed by the body.[1] It is an acquired trait—an expression of the individual that develops as he grows—founded upon the structure of his individual body, its development, the demands of his activity, and the customs of his particular society. Downing[2] emphasizes that posture is physiologic and, as such, is in a continuous state of motion or flux. Poor posture is that which produces strain, limits physiologic movement, and embarrasses function.

CAUSES OF POOR POSTURE

Bad habits, the demands of occupation, anatomical variations, pain, and disease may produce poor posture. Of these, the first two will be considered in this paper. The most common postural fault is the dropped front panel, a fault that is usually produced by bad postural habits, occupational strain, or both. While bad postural habits may result from carelessness, more frequently they follow improper training and social fads.

The individual acquires his postural pattern during his formative years, and although this pattern may be changed by subsequent training or occupation, it is a large factor in determining his physical reaction to later training. The normal physiologic curves of the spine are absent in the infant, and develop as the child becomes ambulant. Adaptation to the force of gravity requires a forward arching of the lumbar spine, a posterior arching of the thoracic spine, and a slight forward arching of the cervical area in the orthograde posture. Serial films of growing children indicate that postural stability is not acquired until the eighth to twelfth year. The preschool child is prone to ape his parents in postural habits, as in other things. Even though his rapidly developing body grows away from any established pattern during this period, habits of carriage and body use will be initiated.

On entering school, the child is exposed to other factors that have important influence upon the postural pattern. Ill-fitting seats and desks encourage bad sitting habits. Ill-advised gymnasium instruction, which insists on the "toes-out-shoulders-back" routine, exaggerates the pelvic inclination and lumbar lordosis. Periods of rapid growth make the individual child conspicuous among his associates and encourage slouching. The necessity of wearing outgrown clothes encourages the boy to try to shrink into them. The young girl cannot wait to get into the lovely high heels that will do so much damage to her gait and her pelvic and spinal balance. At the same time she becomes self-conscious about her developing breasts and so drops her shoulders and flattens her chest to hide them. During the John Held, Jr. era and again in the late thirties we saw the smart set in our schools imitating the popular debutante slouch. Other social fads stem from the limitations imposed by fashion.

THE DROPPED FRONT PANEL

Occupational strain productive of the dropped front panel is brought about because individuals work with arms extended, head down, concentrating on effort that is in front of them and a little too low. Typist or toolmaker, cook or carpenter, bookkeeper or blacksmith —all tend to work in a semi-stooped position that forces the chest into the position of expiration and flexes the thoracic spine. Fatigue, accelerated by this posture, tends to exaggerate and consolidate it. Sitting occupations invoke another postural habit productive of the dropped front panel. The pelvis is flexed on the thighs in assuming the sitting position, the buttocks are placed on the chair with the pelvis still tilted forward and the weight of the individual locks it in that position. The anterior borders of the ischial tuberosities take the weight load, and the sitter straightens up by hyperextending the lumbar spine. So-called posture chairs serve to exaggerate this tendency. Eight hours daily in this position leads to increased pelvic inclination and increased lumbar lordosis. Compensatory changes complete the picture of the dropped front panel.

The series of changes which occur in the dropped front panel are illustrated in Figures 1 to 5. The changes are interdependent and may be initiated at any point in the series. Experience has led me to believe that the most common sequence is that shown in these figures.

In Figure 1 the thin line represents the normal physiologic position of the thoracic cage and abdominal

*Presented at the annual meeting of the Michigan Association of Osteopathic Physicians and Surgeons, Grand Rapids, November 1, 1948.

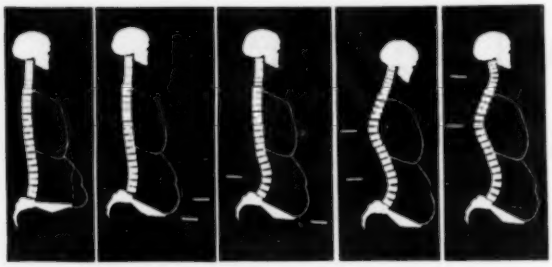

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

wall. Depression of the thoracic cage, produced by the failure to keep the chest up, lowers the costal attachment of the abdominal muscles and permits the belly wall to sag. It will be noted that the shape of the thoracoabdominal cavity is completely changed and that an alteration in the relative position of their contents would become a necessity.

The muscles of the abdominal wall form the suspensory support of the front of the pelvis. All but one of the six pairs attach to the lower ribs. These muscles protect and support the abdominal viscera, assist in regulating the intrathoracic and intra-abdominal pressure, and aid in micturition, defecation, emesis, and parturition. The sag produced by the lowering of the thoracic cage impairs all of these physiologic activities and encourages forward tilting of the pelvis (Fig. 2).

The sacrum is an integral part of the pelvis. Increased pelvic inclination places the sacrum in a position of flexion and increases the angulation of the sacral base plane. The lumbar spine is carried forward by the altered sacral position and increase in the lumbar lordosis is the inevitable result (Fig. 3).

When the changes described above have taken place, the body weight is shifted well forward of the normal center of gravity and the body attempts to reestablish some degree of balance by increasing the kyphosis of the thoracic spine. The apex of the kyphosis usually lies between the fifth and eighth thoracic vertebrae with the upper thoracic spine in forward inclination. Continuation of this forward thrust of the spine causes tilting of the skull so that the line of vision is directed downward a few feet in front of the subject (Fig. 4).

Nature attempts to keep the eyes on a level and the line of vision directed forward. This is accomplished in the dropped front panel by the production of cervical lordosis. The drag of the depressed thoracic cage on the scalenes and sternocleidomastoids exaggerates the gooseneck attitude and embarrasses cervical activity (Fig. 5).

The typical question mark posture, so common in our population, is the result of the changes outlined.

There is a tendency to exaggerate when preparing illustrations, but that is not true with regard to Figures 1 to 5. Many cases present a more marked degree of postural imbalance than that shown. Photographic evidence is offered in Figure 6. This young woman presents an excellent example of dropped front panel. The depressed thoracic cage, sagging belly, increased pelvic inclination, lumbar lordosis, and dorsal kyphosis produce the appearance of fatigue and low body efficiency. A front view (Fig. 7) shows the subclavicular and subcostal hollows, and the prominent anterosuperior spines that mark such cases.

Good and poor posture are both illustrated by Figures 8 to 11. These pictures might well be "before and after" shots as used in some types of advertising. Actually, they were both taken "after." This young man had improved his posture through treatment and postural exercises to the point where he appeared as shown in Figures 10 and 11. He was able to assume his original degree of poor posture by permitting the front panel of his body to sag as shown in Figures 8 and 9.

In good posture the chest is well up, the abdomen flat, the head well balanced on the cervical spine. The shoulders are relaxed and there is no evidence of strain. When the front panel of the body is dropped, the patient exhibits the factors of poor posture—depressed thoracic cage, sagging belly, increased pelvic tilt, and exaggerated spinal curves. The head drop forward and the drag on the cervical muscles is apparent.

THE SPINE

The spine has several functions. It supports the weight of the trunk, head, and upper extremities; it is articulated to permit free and complex movements of the trunk; it serves as a conduit for the spinal cord; it contains foramina for the exit of the spinal nerves. The posterior walls of the foramina are formed by the articular processes. The spinal canal contains the meningeal coverings of the cord with their vascular and cerebrospinal fluid circulations. The red marrow of the vertebral bodies has a large share in the hemopoietic function of the adult. The descending aorta rests on the spinal column and conforms to its contour. The important lateral chain ganglia of the sympathetic nervous system follow the vertebral bodies.

Good posture provides the optimal mechanical circumstances for normal conduct of these important functions. The stress of body movement is evenly dispersed through the many spinal articulations so that localized strain is avoided. No impediment to vertebral or intravertebral circulation is established, and the fluctuation of cerebrospinal fluid is unembarrassed.

Tracings (Fig. 12, 13, 14a, 14b, 15a, and 15b) have been made from the photographs, Figures 6 to 11, in an attempt to show more clearly the picture of the dropped front panel type of posture. Other tracings based on the photographs have been made to illustrate schematically how this type of poor posture embarrasses physiology and produces perverted function of various bodily systems.

Figure 16b illustrates what happens to the spine in the dropped front panel type of poor posture as contrasted with the spine in good posture (Fig. 16a). The normal anteroposterior curves are exaggerated and poor mechanics for the support of the trunk, head, and upper extremities are established. Strain will accumulate at the apices of the curves in the thoracic and cervical areas and at the lumbosacral and thoracolumbar junctions. The exact location of these apices may vary in different individuals, but they usually are found between the fifth and eighth thoracic vertebrae and in the lower cervical area.

Osteopathic spinal lesions will recur at these areas as long as the poor posture remains. Stoneman[3] has expressed the opinion that articular arthritic lesions are only aged articular osteopathic lesions. The increased anteroposterior curves will alter the size and shape of the intervertebral foramina and will have detrimental

effects upon the arteries, veins, and nerves passing through them. Degenerative pressures are brought to bear on the invertebral disks and sclerotic changes take place in the annulus fibrosus, making it more susceptible to trauma. The arterial and venous circulation to the spine and intraspinal structures is handicapped by the altered relations and by the pressure and tensions of the tissues involved in the increased curves. The shape of the dural sac is changed and variations in the fluctuation of cerebrospinal fluid can be expected.

Altered circulation to the red marrow of the vertebral bodies will affect its hemopoietic activity and contribute to changes in the blood picture. The descending aorta will conform to the shape of the spinal column and the bombardment of blood flow at the bends so created will increase the tendency toward atheromatous and sclerotic changes. The velocity of blood flow in the inferior vena cava, where the pressure is normally low, will be decreased. The sympathetic ganglia will be exposed to excitation arising from the osteopathic lesions produced by the inevitable localization of strain, as well as to chemical changes in the radiate ligaments at the costovertebral articulations upon which they rest.

THE THORACIC CAVITY

The capacity of the thoracic cavity is determined to a large extent by the relative position of the ribs. Elevation of the ribs increases both the anteroposterior and lateral diameters of the chest. The amount and character of the increase vary at different levels in the chest. The first ribs and manubrium sterni act in unison, rising during inspiration by movement at the costovertebral and manubriosternal articulations. Active respiratory movement at the junction of the manubrium and sternum is physiologically normal and should be discernible in all patients under 60 years of age. Ankylosis of this joint takes place in later life. The greatest anteroposterior expansion takes place from the second to sixth ribs inclusive. Lateral expansion is produced by elevation of the seventh to tenth ribs and the anteroposterior diameter of this area is slightly decreased during inspiration.

The intercostal nerves, arteries, and veins circumnavigate the body in the groove on the undersurface of each rib. Good costal posture is essential for the normal function of these tissues. The ribs and sternum

Fig. 6 Fig. 7

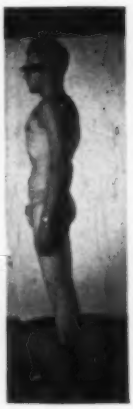

Fig. 8 Fig. 9 Fig. 10 Fig. 11

harbor a large portion of the blood-forming red marrow, hence normal circulation to these bones is necessary in maintaining normal hemopoiesis. The thoracic sympathetic ganglia, resting upon the radiate ligaments of the costovertebral articulation are afforded best functional environment when good posture exists (Fig. 17a).

The ribs are elevated by the action of the external intercostal muscles whose fibers run obliquely forward and downward from each rib to the next inferior. Contraction of these muscles depresses the superior rib and elevates the inferior rib. In normal posture the scalenus muscles resist the depression of the first and second ribs, hence contraction of the external intercostals brings the ribs up toward the first. This action is hampered in poor posture by the pre-existing depression of all the ribs, including the first and second, and the impaired function of the scaleni from the drag of the sagging thoracic cage (Fig. 17b).

The decreased chest capacity limits active respiration to a small portion of the lungs, crowds the heart and mediastinal vessels, and decreases the circulatory efficiency. The intercostal arteries, veins, and nerves are placed in poor functional relationship and nutrition of the important marrow of the ribs and sternum is jeopardized. Marked limitation in costal movement brings about restriction of activity at the manubriosternal articulation and predisposes toward early ankylosis of this junction. The radiate ligaments at the costovertebral articulations are placed on tension and undergo chemical and structural changes that create hazards to the adjacent sympathetic ganglia.

C. S. Green[4] has reported an interesting observation. When he was a student at Kirksville, he was told by Dr. Still that one of his patients would die from a coronary attack. On being requested for an explanation of that prediction, Dr. Still pointed out that there was a sharp angulation at the manubriosternal articulation and that the first three ribs were depressed. Dr. Green says that he has watched for such findings in his practice and has observed 22 cases in which this relationship of the first three ribs and manubrium was associated with coronary disease. He has found that bilateral pressure on the third ribs, either at their sternal or vertebral articulations, produces a sensation of smothering in all such cases.

THE DIAPHRAGM

The principal function of the diaphragm is to assist in the mechanics of respiration. Contraction of the diaphragm lowers its dome and increases the thora-

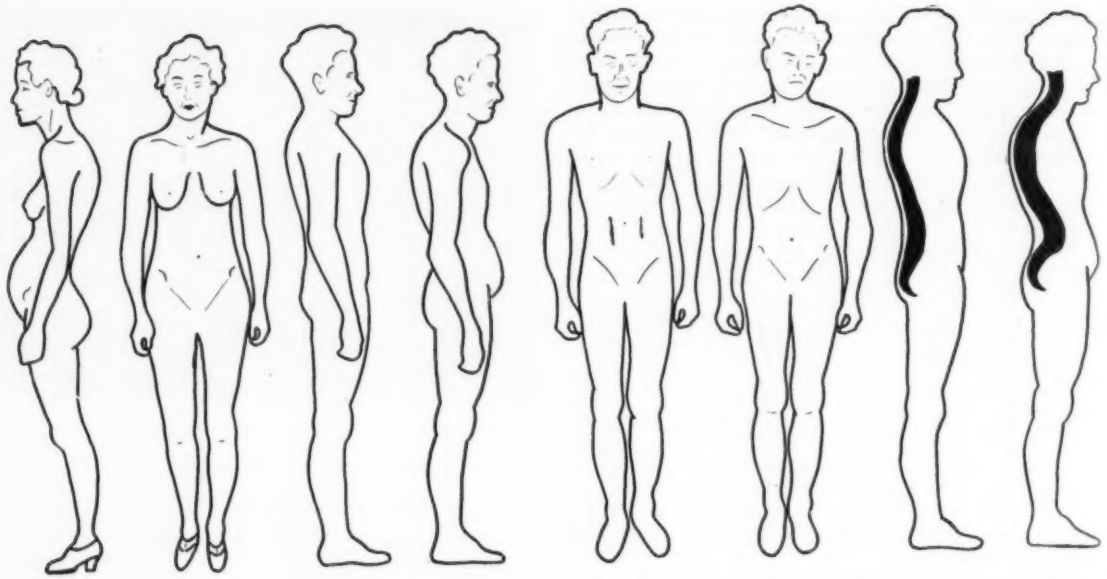

Fig. 12 Fig. 13 Fig. 14a Fig. 14b Fig. 15a Fig. 15b Fig. 16a Fig. 16b

cic capacity approximately 270 cc., thus causing the intake of an equivalent amount of air. Factors affecting the upward excursion of the diaphragm in expiration are the subatmospheric intrathoracic pressure and the pressure of the abdominal viscera. In the recumbent position, the upward pressure of the abdominal viscera is considerably greater than in the erect position. In the standing position, the weight of the abdominal content tends to exert a downward pull on the diaphragm and limits its upward excursion.

The excursion of the diaphragm in the average person with good posture is about 1.2 cm. in quiet breathing and about 3 cm. in forced breathing[5] (Fig. 18a). Goldthwait and others[6] show tracings from fluoroscopic examination of easy and forced respiration which would indicate that these figures are conservative. The range is seriously decreased in the dropped front panel by the altered relationship of the structures affording diaphragmatic attachment, the increased drag of the abdominal organs, and the decrease in the negative pressure within the thorax (Fig. 18b).

The rhythmic movement of the diaphragm is associated with and contributes largely to the alternating pressure in the thorax. The intrapleural pressure is always subatmospheric and varies during quiet respiration from about minus 2 millimeters of mercury in expiration to about minus 6 millimeters of mercury during inspiration. Forced inspiration (especially attempted inspiration with the glottis closed) may increase the negative pressure to about 40 millimeters of mercury; and forced expiration under the same circumstances may produce a positive pressure of about 50 millimeters of mercury. While this alternating pressure is concerned principally with respiration, it has important side effects. The pressure of blood in the venae cavae where they enter the right auricle is very low, about 5 millimeters of water. The alternating subatmospheric pressure in the thorax aids in maintaining this venous flow by its pumping action. Lymph circulation takes place in a closed system of lymph capillaries and lymph channels. The flow of lymph is aided by the contraction of muscles and by the pumping action of the diaphragm.

The mechanical activity of the organs contained in both the thoracic and abdominal cavities is facilitated by the movement transmitted from diaphragmatic excursion, as well as by the pressure changes produced by this excursion. Limitation of the excursion in poor posture deprives the organs of this mechanical aid. Circulatory stasis of both the blood and lymph in the capillary sinuses of the organs is favored by such decreased motility.

The diaphragm takes its origin from the xyphoid process, from the inner surface of the anterior portions of the lower six ribs and their cartilages, and from the lumbar vertebrae. In good posture, this places the origin of the anterior portion of the diaphragm at a higher level than the posterior portion (Fig. 19a). The dome of the diaphragm, the central tendon, rises to the level of the fourth costal cartilage on moderate inspiration, and is slightly higher on the right side than on the left. The depressed thoracic cage in poor posture alters the relative position of the anterior and posterior portions of the diaphragm, changes the direction of pull of its muscle fibers and depresses its dome (Fig. 19b). The shape of both the thoracic and abdominal cavities is further changed by this diaphragmatic effect, and the organs contained therein must adapt their function to the changed structural conformation.

The liver is frequently palpable below the costal margin in this type of posture. Although liver function will be embarrassed by the change in position, the deleterious effects on portal circulation, and disturbances in autonomic balance, the palpable liver is sometimes misjudged to be a separate clinical entity. It must be recognized as a part of the total picture of poor posture in individuals with a dropped front panel.

The three large openings in the diaphragm for the passage of the inferior vena cava, the esophagus and vagus nerve, and the aorta and thoracic duct are altered in their shape and relationship by the depressed diaphragm. The importance of impediment to the normal function of any of these structures hardly needs emphasis.

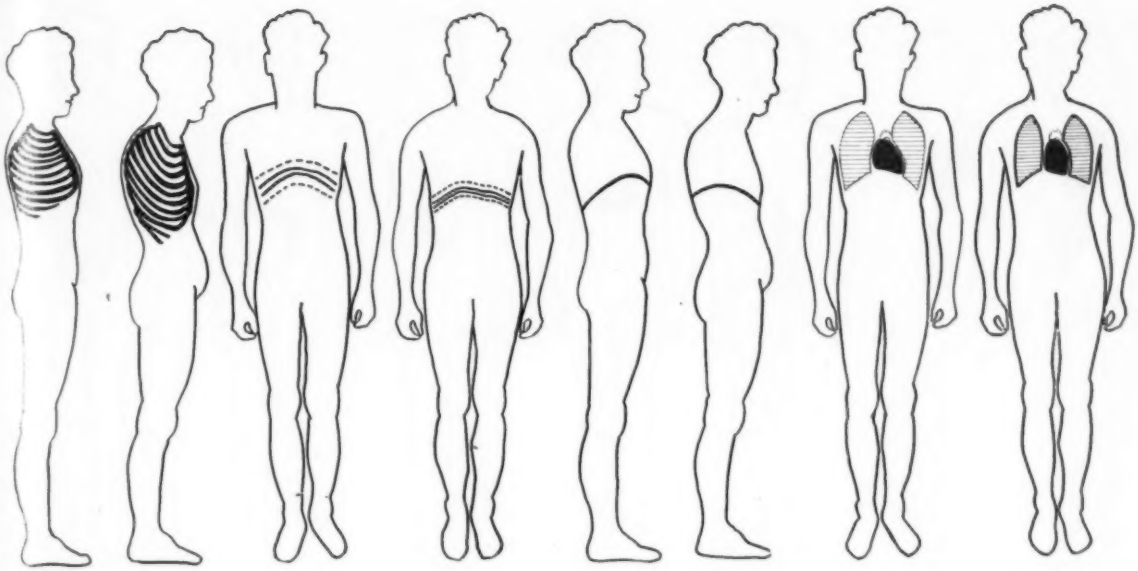

Fig. 17a Fig. 17b Fig. 18a Fig. 18b Fig. 19a Fig. 19b Fig. 20a Fig. 20b

THE HEART

The heart is contained in the pericardium which makes suspensory attachment to the esophagus behind, the pleura laterally, and the body of the sternum anteriorly, and is firmly fused with the central tendon of the diaphragm. The suspensory ligament of the diaphragm extends downward from the posterior portion of the cervical fascia, passes around the heart, and attaches to the central tendon of the diaphragm. In normal posture these tissues support the heart in good functional position and protect it from trauma which might be inflicted by body movement (Fig. 20a). Dropping of the front panel of the body causes the sternal attachment of the pericardium (the sternopericardial ligament) to tug downward; the flattening of the dome of the diaphragm lowers its support to the heart and pulls down on the pericardium. The altered pull on the suspensory ligament permits further sagging of the heart and tends to compress it (Fig. 20b). Downward displacement of the heart interferes mechanically with contraction and creates a pull on the aorta and pulmonary vessels which decreases their lumen. Animals held upright for prolonged periods often die from the impairment of cardiac function and circulation. Nature has provided a greater margin of safety in man so that the effects of downward displacement are not immediately serious. However, Goldthwait and his colleagues[6] report that long continuance of the downward displacement of the heart leads to incompetence of the right ventricle and the gradual development of decompensation.

THE LUNGS

In themselves, the lungs are incapable of expansion and contraction. At birth the air sacs are undistended and solid. Expansion of the chest creates a negative pressure and the inflowing air under atmospheric pressure blows the lungs up to fill the thoracic space. In normal posture, the thoracic space is somewhat larger than the lung can fill by simple unfolding, and the differential in intrathoracic and atmospheric pressures places the lung tissue on stretch. The elasticity so created facilitates respiration and places tension on the capillary walls so that they become more efficient in carrying out the interchange of gases.

The average man utilizes about 500 cc. of air in easy respiration, but is capable of inhaling about 3000 cc. on deepest possible inspiration after full expiration. Even after full forced expiration, about 1000 cc. of air remain in the lung. When the thoracic wall is depressed, and the excursion of the diaphragm limited by poor posture, the respiratory capacity is greatly decreased. The residual air volume is increased, due to the limited chest movement and limited diaphragmatic excursion. The volume of tidal air remains fairly close to that of the individual with normal posture, that is, easy respiration with the individual relaxed and resting will be closely parallel in the two individuals. The volumes of complemental and supplemental air (the added amounts which the individual is capable of inhaling and exhaling through forced respiration) show wide variation, with a great decrease in these volumes in the person of poor posture. This means that the normal individual can adjust to extra demands for oxygen with comparative ease, but the person with poor posture soon builds up an oxygen debt with its resulting anoxia. Since all of the cells of the body require an adequate supply of oxygen to maintain normal function, it is obvious that the efficiency of total body physiology is decreased in direct relation to the demands placed on the person with poor posture.

THE CIRCULATORY SYSTEM

The heart is the prime source of energy which drives the blood through the vascular systems. The two sides of the heart contract simultaneously and maintain the flow of corresponding volumes of blood. The right heart is occupied with driving the blood through the relatively short pulmonary system while the left heart must propel an equal volume of blood through the more extensive general circulation. The pressure of the blood stream decreases in direct proportion with the distance that the blood has traveled from the heart, the loss of pressure being due to the expenditure of energy in overcoming the friction between the blood stream and the vessel wall. The maximum pressure is found in the aorta and there is

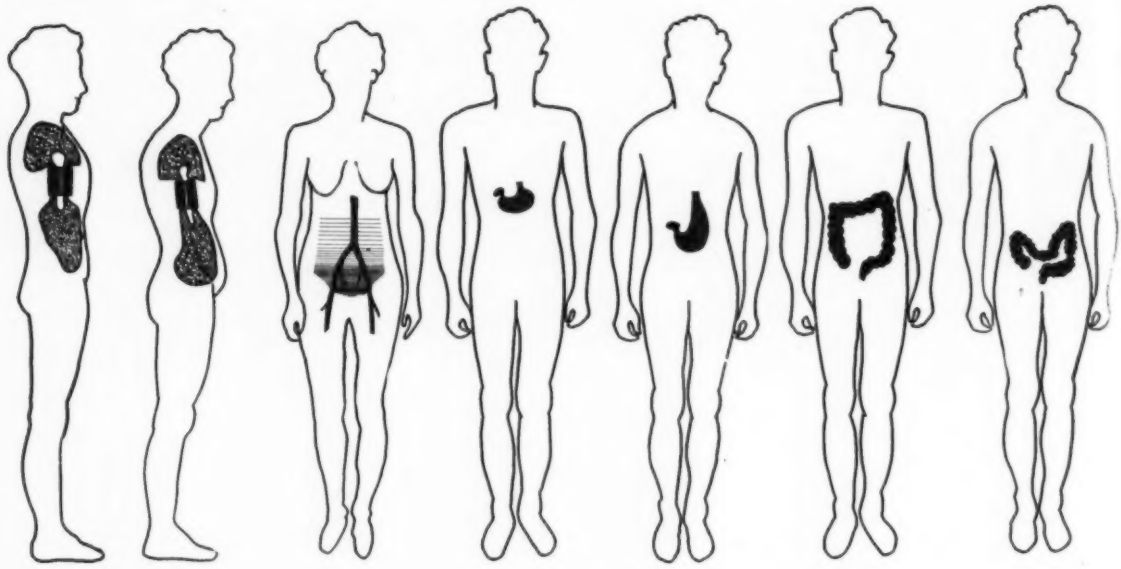

Fig. 21a Fig. 21b Fig. 22 Fig. 23a Fig. 23b Fig. 24a Fig. 24b

a rapid loss of pressure as the blood passes through arteries of decreasing size and through the arterioles. The pressure loss is progressive through the capillaries and veins at a more gradual rate until the blood re-enters the heart from the venae cavae. At this point the pressure represents only about 5 mm. of water.

The velocity of the blood stream remains fairly constant until the capillary lake is reached. Although the number of vessels increases progressively from aorta to arterioles, the total area of the blood stream at the arterioles is only slightly greater than at the aorta. The flow of blood is slowest in the capillary bed for, although the individual capillary is only slightly larger in diameter than the red corpuscles, the total of the sectional areas of the capillaries would be 600 to 800 times that of the aorta. It is in the capillary lake that the vital functions of the blood stream are effected, and the immediate amount of blood in any capillary area is controlled by the caliber of the arterioles supplying that area. Still[7] proclaimed that a disturbed artery marked the beginning of disease to the hour and minute and it is obvious that disturbance at the level of the arteriole would exert immediate and extensive effects upon the efficiency of the capillaries supplied by the disturbed arteriole.

Postural defects which cause increased pressure upon organs or supportive tissues embarrass capillary circulation. The thin layer of endothelial and Rouget cells that comprise the capillary walls have little resistance to external pressure and the internal pressure exerted by the blood stream on the capillary is low. Consequently postural strains deter circulatory values at the site of least velocity, low pressure, minimum defense against external forces, and maximum site of physiologic duty.

These diagrams (Figs. 21a and 21b) were designed to demonstrate the need for balance between pulmonary and general circulation. The mass of capillaries below the heart represent the entire skeletal and visceral circulation, while that above the heart represents pulmonary circulation. Since the right heart can pump into the pulmonary circulation only that amount of blood which reaches it from the general circulation, and since the output of the left heart is controlled by the amount of blood reaching it through the pulmonary circulation, it follows that circulatory stasis anywhere in either of these systems will influence the total circulation in both systems.

Another factor whereby poor posture decreases the circulatory efficiency is shown in Figure 22. The relaxed belly wall and visceroptosis found in the type of poor posture illustrated produces an increasing density of the abdominal content in the lower part of the abdominal cavity. The venous return from the lower extremities is carried to and through the paired hypogastric and external iliac veins to the common iliacs. The ptosed and crowded organs in the lower abdomen and pelvis exert greater than normal pressure upon these vessels and decrease their capacity. Progressive loss of pressure and failure of the diaphragm and thoracic cage to maintain efficient pumping action slows down the uphill flow of venous blood from these areas.

THE GASTROINTESTINAL TRACT

Cellular nutrition starts with the ingestion, digestion, and assimilation of food. Taking for granted the availability of food, ingestion depends to a great extent upon appetite, and among the many factors influencing appetite, the status of the stomach is of no little importance. The individual beset by flatulence, achlorhydria or hyperacidity, gastric retention or nervous gastritis does not look upon food with pleasure. His appetite is poor and finicky and conflict exists between his desire for food and fear of the consequences of partaking thereof.

Digestion, initiated by mastication and saliva, is carried on by the stomach and the intestinal tract. The peristaltic activity, stimulated by intake, mixes the food and digestive juices and moves the mass along the digestive tract. The normally situated stomach (Fig. 23a) is designed to carry out the digestive procedure with high efficiency in conjunction with the small intestine, biliary tract, and pancreas. The dropped front panel sabotages this whole production line. The esophageal tug produced by the flattened diaphragm has been mentioned. The stomach is forced

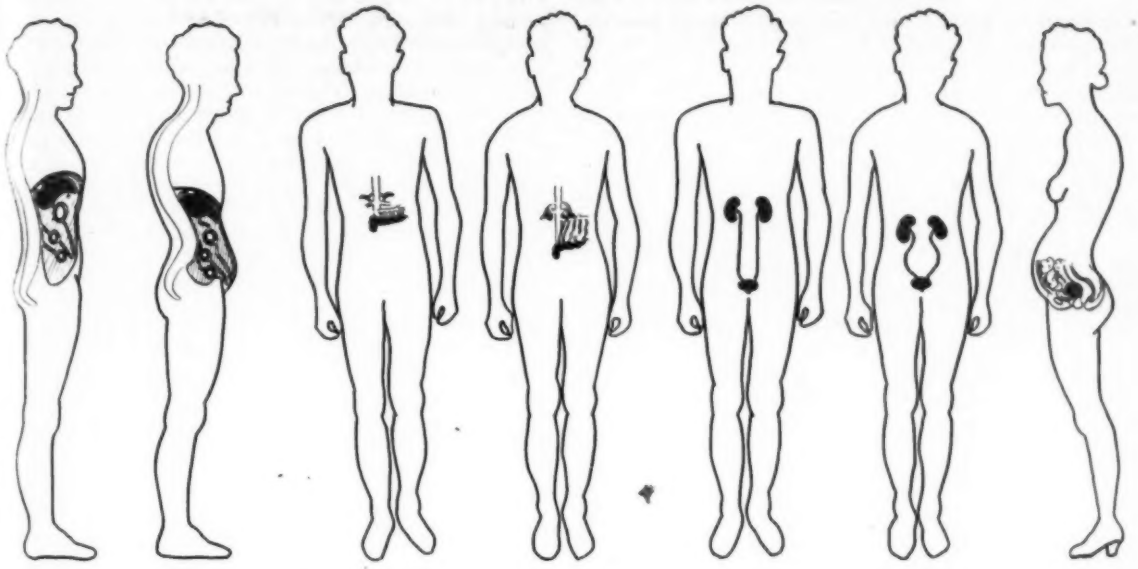

Fig. 25a Fig. 25b Fig. 26a Fig. 26b Fig. 27a Fig. 27b Fig. 28

down from its normal position and assumes a fish-hook shape (Fig. 23b) that lends itself to distention, impairment of peristaltic activity, and altered emptying time. The stretched gastric walls increase the permeability of the gastric capillaries and impede circulation. Carbon dioxide is released from the blood stream and produces much of the flatulence encountered in such cases. The glands of the stomach become inhibited or stimulated, according to other factors (autonomic and psychic) and achlorhydria, hyperacidity, or gastritis may result. Many suspected "ulcers" will disappear upon relief of the postural impairment of the stomach.

The stomach has been referred to as the emotional barometer because of its tendency to reflect the emotional status of the individual. Every patient with a psychic disturbance complains of "butterflies," "lumps," "weight," or "cold" sensations in the stomach. I believe that the vague distress created in this organ by the dropped front panel type of posture is a contributing factor to much emotional instability.

Figures 24a and 24b show a diagram of the large intestine in good and bad posture. It can be interpreted to represent both the large and small intestine. Digestion is completed in the intestine and the assimilation of the end products takes place there. In normal posture, peristaltic activity maintains the smooth flow of chyle at the rate most suitable for digestion and assimilation in the individual. Bile and pancreatic juices are properly mixed with the food and sufficient time is permitted for the resulting chemical reactions. The ptosed gut of poor posture leads to disharmony of this nicely balanced function. Unnecessary "kinks" slow down the flow of material, and the resistance so created calls forth massive or cumulative waves of peristalsis. Borborygmi, cramps, and constipation harass the patient and he becomes increasingly aware of physiologic embarrassment in a function that should not reach his consciousness. I wonder how many patients have submitted to appendectomy when postural improvement would have eliminated cecal retention and the "chronic appendix"?

The gastrointestinal tract is supported by the mesentery and receives its blood vessels through the folds of the greater and lesser omentum (Fig. 25a). These supportive membranes are attached to the posterior abdominal wall and suspend the stomach and the small and large intestines in fanshaped folds. The celiac, superior, and inferior mesenteric arteries send branches in extensive anastomoses through these folds to supply the intestinal tube. The mesenteric veins pick up the return flow from the intestinal capillaries and converge into the portal system. Ptosis of the abdominal organs places tension on the omental folds and their contained vessels, stretching and decreasing the lumen of those vessels (Fig. 25b). Multiple folds and bends in these vessels, that occur as a result of the intestinal displacement, further impede circulatory factors. Small wonder that the slouched patient complains that he does not derive any benefit from the food he eats. His fatigue is increased by the malnutrition resulting from the impaired portal circulation. The biliary function of the liver is affected by altered portal circulation and digestive disturbances are again favored. Cycles within cycles of perverted physiology are initiated by the structural perversions of poor posture.

THE PANCREAS AND SUPRARENAL GLANDS

Figures 26a and 26b represent the effect of postural faults upon the pancreas and suprarenal glands. It will take a little imagination to follow the thought they are meant to convey. Lack of artistic ability prevented a true pictorial representation and exaggerated distortion of blood vessels and anatomical relationship have been employed to create an impression, rather than an exact picture. Energy, both muscular and mental, is supplied by the utilization of glucose and oxygen. Good balance of function between the pancreas and the suprarenals is essential to the proper utilization of glycogen as liberated from the liver. The allergies appear to be closely associated with suprarenal malfunction and recent investigation of epilepsy, migraine, and associated conditions points an inquiring finger at disturbances in the balance of insulin, adrenalin, and glucose.

The suprarenals receive their blood supply from the superior, middle, and inferior suprarenal arteries; the pancreas is supplied by many branches from the splenic artery. The displacement of these organs by postural changes alters their relationship to their source of arterial supply and impedes the venous drainage. Nutritional changes in the cells of these glands, either through disturbance to their vessels, or through other factors previously described tend to upset the delicate balance of function.

Functional hyperinsulinism has been demonstrated as a common condition in autonomic imbalance[8] and hypoadrenia has been pointed out as a basic factor in allergies[9] by osteopathic authorities. These glands form important links in the neuroendocrine system and the disturbances indicated would apply equally throughout this system. I believe that postural factors and their sequelae may be primary factors in the production of endocrinopathies, and that our present trend toward emphasizing psychosomatic medicine may be masking the importance of somaticopsychic factors. The psychic trauma brought about by gastrointestinal distress has been mentioned. Cerebral malnutrition and excessive excitation or inhibition brought about by posturally produced endocrine dysfunction would certainly create an emotional instability, and render the individual more vulnerable to psychic injury.

THE GENITOURINARY SYSTEM

The genitourinary system is not immune to the deleterious effects of postural trauma. The anatomy texts describe the location of the kidneys to be about the level of the eleventh thoracic vertebra. Urine, filtered from the blood stream by the kidneys, is carried to the urinary bladder through the ureters which travel a smooth, slightly curved course downward to the bladder (Fig. 27a). Normal blood supply to the kidneys, unimpeded secretory flow through the ureters and the absence of abnormal pressure upon the bladder all tend toward normal urinary activity. In poor posture, the kidneys are found to be at a lower level in the abdomen, forced downward by the flattening of the diaphragm (Fig. 27b). X-ray examination usually reveals the kidneys slightly turned so that the hilum faces more inferiorly, a fact that would necessitate some distortion of the renal vessels. The ureters are involved in the general ptosis of the abdomen, and the bladder is subjected to increased pressure from the lowered viscera. No immediate drastic effects result from this altered relationship, but the slight impairment of physiologic harmony so established would impair kidney efficiency over a period of time.

The active phase of the menstrual cycle has not earned the common name of the "curse" without cause. Irregular, painful, and prolonged menstruation makes this physiological activity an actual curse to too many women. Under normal circumstances, added hygienic care should be the only trouble encountered. Cramps, nausea, backache, headache, and severe depression are complications produced by dysfunction. Postural factors rank high among the many contributing causes of dysmenorrhea. The thoracolumbar and sacral autonomics suffer from the spinal changes associated with the dropped front panel and the circulatory values to the involved organs can not be maintained at their optimum level in the face of the organic congestion of the lower abdomen and pelvis. The uterus is frequently displaced by the pressure of the superimposed viscera and a mechanical impediment to the excretion of menstrual flow is added to the perverted physiology.

The patient from whose photograph this diagram (Fig. 28) was taken presents an obvious visceroptosis with bulging belly and subcostal hollow, but the marked change in body outline is not necessarily present in all cases of ptosis. The abdominal content may be forced downward and impacted in the lower abdomen and pelvis even in the presence of a fairly flat abdominal wall. Palpatory pressure on the upper abdomen compared with like pressure on the lower abdomen will often reveal a congested state that might escape visual observation. Successful therapeutic approach must take cognizance of the mechanical factors involved and relief of the visceral congestion in the lower abdomen must be obtained.

Functional sterility is not uncommon in these patients. The osteopathic pathology at the first lumbar vertebra and sacrum, plus the abnormal physiologic condition of the ovaries and uterus, may prevent conception. I have been able to correct functional sterility in several cases where conception had proved impossible over a period of years, and in each instance the postural factor has had considerable bearing on the case.

CONCLUSIONS

I am convinced that postural interference to normal physiology is essentially an osteopathic problem. The strain produced by postural imbalance is inevitably associated with osteopathic lesions, and both the postural fault and the osteopathic pathology must be corrected to secure true health. I become more and more inclined to believe that the majority of osteopathic lesions have a postural background, and that failure to understand and evaluate the postural factor leads to the recurrence of lesion pathology.

Postural disturbances have marked effects upon the visceral and nervous systems, as well as upon the skeletal system. We have not yet gained a complete understanding of the close integration and interrelationships of the body. An effort has been made to demonstrate some of the factors that pervert physiology in one type of poor posture, in the belief that better understanding of these factors will lead to better management of the conditions they produce.

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REFERENCES

1. Eggleston, A. A.: Adjunctive exercise in the postural case. J. Am. Osteop. A. 43:319-326, Mar. 1944.
2. Downing, C. H.: Mechanical control of posture. J. Am. Osteop. A. 38:185-191, Dec. 1938.
3. Stoneman, C. L.: Modern trends in diagnosis and treatment of arthritis of unknown etiology. J. Am. Osteop. A. 47:415-416, April 1948.
4. Green, Charles S.: Group discussion, New York, 1948.
5. Best, C. H., and Taylor, N. B.: Physiological basis of medical practice. William Wood & Co., Baltimore, 1937, p. 482.
6. Goldthwait, J. E., *et al.*: Body mechanics in health and disease. J. B. Lippincott Co., Philadelphia, 1941.
7. Still, A. T.: Autobiography. Published by the author, Kirksville, Mo., 1908.
8. Northup, G. W.: Lecture to the Canadian Osteopathic Association, 1945.
9. Becker, A. R.: Functional hypoadrenia in allergy. J. Am. Osteop. A. 44:169-171, Dec. 1944.

Pseudoangina Pectoris

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The purpose of this paper is to describe a syndrome of pseudoangina pectoris. The importance of this syndrome lies in its frequent confusion with pain in the chest due to coronary artery disease. It is a condition which is frequently seen and too often misdiagnosed and mismanaged. Pseudoangina pectoris may be defined as pain occurring in the left chest due to fibrositis in the left upper and midthoracic paravertebral regions, the left subscapular region, and the left supraspinous and infraspinous fossae.

The patient always complains of pain occurring in the precordium. This is at times a dull pain, at times a sharp pain referred around the chest from the upper or midthoracic regions and associated at times, but not always, with pain in the upper or midthoracic regions. It is at times referred down the inner aspect of the left arm.

The pain may occur at rest or during activity, the activity usually involving work or exercise such as lifting or pulling. Relief is usually obtained by rest, although at times a patient will state that exercise will relieve when the pain has occurred during rest. Sometimes a patient will "walk off" the pain.

The hyperventilation syndrome is an integral part of the symptom complex. Following the onset of the pain as described, the patient will usually begin to breathe rapidly until he reaches a stage when he must breathe with effort to get a satisfying breath. He becomes light-headed and dizzy and at times weak and faint. He is sure that he is having a heart attack.

All of these patients exhibit a cardiac neurosis. From reading various popular articles they have learned that pain in the precordial region referred down the left arm and associated with shortness of breath indicates angina pectoris. They usually give a history of having been attended during these attacks by one or more physicians and of having been told, in most cases, that the attacks were due to nervousness. In some cases, they have been told that the seizure was actually a heart attack. The patient is usually satisfied with the explanation of nervousness until the next attack occurs, when the explanation is doubted.

The essentials in properly diagnosing these cases are a carefully elicited history and a reproduction of the pain complained of by finding and exerting pressure on the fibrositic regions responsible. In the history it will be noted that these pains may occur at rest as well as during activity and during emotional upsets. Relief can be obtained even on continuation of the activity. On examination the heart is usually normal but in some cases a valvular lesion may be found. However, the essential part of the examination is to find the fibrositis which is responsible for the pain.

In true angina pectoris the pain will occur during activity, emotional upset, or following a heavy meal. The pain is vise-like as if there is a crushing force on both anterior and posterior chest walls; it is referred to the root of the neck, the left shoulder, and down the left arm. At times the pain is atypical and is noticed only in the shoulder or arm, or in the back between the scapulae. The patient will remain rooted to the spot, until the pain has left, with fear of impending death. Relief is obtained with rest, nitroglycerin or aminophyllin intravenously; at times a narcotic is necessary.

In pseudoangina treatment begins with pointing out to the patient that his symptom complex is not angina pectoris, which is best done by reproducing the pain as described above. The patient is reassured and the manner in which the hyperventilation syndrome occurs is explained. Osteopathic manipulative treatment directed to the lesions found will clear up the fibrositis and will result in disappearance of the pains. A typical case history follows.

CASE HISTORY

Mrs. L. H. was first seen on August 1, 1947, complaining of indigestion and pain in the left chest. She stated that at 10:30 a.m. on that day, after doing her washing, she became weak and felt as if it were too great an effort to do anything; she then became nervous and developed indigestion. The indigestion was described as a tightening in the left chest "over the heart," followed by belching and pains across the chest. She also had pain down the inside of the left arm and in the back in the region of the left shoulder blade.

The patient had had similar attacks previously, after doing the washing. She stated that the bulk of the lifting while washing was done with her left arm. At the onset of these attacks the patient was afraid that she was having a heart attack. She then became frightened and nervous and the symptoms described above followed. She called doctors during the attacks and was always told that they had been produced by nervousness.

In June, 1946, she had pneumonia. At that time she had pains in the upper anterior chest, bilaterally. These pains have recurred with changes in the weather and attacks have followed.

For 15 years the patient had been very nervous. She had been unable to relax, eaten quickly, and done everything as if in a race. Because of the housing shortage, members of her family, with whom she is apparently unable to get along, had lived with her. Two brothers and four sisters were living and well, except for nervousness. The remainder of her history was irrelevant.

Physical examination revealed a well-nourished, well-developed white female, aged 38, who appeared nervous and apprehensive. Temperature was 98.6 F., pulse 72, and respirations 24. Blood pressure was 142 systolic, 90 diastolic. Weight was 133 pounds, and height 62 inches. Head, eyes, ears, and nose were normal. There was an upper dental plate. The lower teeth were present with a few small cavities. The tonsils were small. The neck was normal. Her chest revealed tenderness of the upper third anteriorly and in the axillary region. There was slight tenderness of the left subscapular tissues along the medial border. The left supraspinatus muscle was tender, with a very tender nodule near the inferior angle of the scapula. On palpation of the nodule, pain was felt down the inside of the left arm and along the left second intercostal space similar to the pain during attacks. The lungs were

clear; the heart was physiologically normal. The remainder of the examination revealed nothing abnormal.

A diagnosis of pseudoangina was made. Treatment consisted of an explanation of the causation of her pain, infra-red heat to the thoracic region followed by sustained pressure to the tender nodule, and phenobarbital, ¼ grain, four times daily.

The patient returned 1 week later and stated that she had had no nervousness or indigestion although she had experienced recurrences of pain while working. At the present writing the patient has had no further attacks.

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REFERENCES

1. Levine, S. A.: Clinical heart disease. Ed. 3. W. B. Saunders Co., Philadelphia, 1945, pp. 76-105.

2. White, P. D.: Heart disease. Ed. 3. The Macmillan Co., New York, 1944, pp. 816-846.

Diabetes Mellitus*

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Diabetes mellitus may be defined as a hereditary metabolic disease of poorly defined etiology characterized by a primary error in utilization and storage of glucose and secondary errors in water, salt, vitamin, protein and fat metabolism.

This paper will deal principally with the diagnosis and management of the diabetic state and the complications of this disease.

It was first recognized by Claude Bernard[1] that the liver was the key organ of the body in the regulation of blood sugar. It is now recognized as the only organ that possesses a reservoir of glycogen capable of being converted to glucose to replenish blood sugar needs.

Animal experimentation has demonstrated that the liver is the site of glucose formation from noncarbohydrate sources. The process of glucose formation from noncarbohydrate sources is spoken of as gluconeogenesis and appears to be one of the processes which when uncontrolled is responsible for the tissue wasting and fasting hyperglycemia characteristic of uncontrolled diabetic state.

The liver has a readily available or an emergency reservoir of stored carbohydrate in the polysaccharide form as glycogen. The quantity represents about 50 per cent of the total body store of carbohydrate and equals approximately 100 gm. This would supply the energy needs of the body for about 5 hours. The blood stream itself contains about 5 gm. of glucose or energy needs for a few minutes supply only.

The above figures are mentioned to bring out the point that carbohydrate, protein, and fat metabolism is in dynamic balance normally and that variations in control result in the metabolic imbalance which is recognized as diabetes mellitus. The hormonal controls and enzyme systems, normally operative, are disrupted in a poorly understood manner which apparently is responsible for the errors in metabolism occurring in diabetes.

Soskin and his collaborators[2] have emphasized that blood sugar control is largely centered in the liver by a "homeostatic mechanism." In other words, as the blood sugar falls to a certain level the liver produces glucose by a process of glycogenolysis, for emergency needs, or by gluconeogenesis for more prolonged periods. If the blood sugar level becomes elevated above a certain point the process is stopped and glucose is stored by a process of glycogenesis. The blood sugar level at which the liver responds in the above manner is spoken of as the liver "threshold" for glucose.

Muscles also store glucose as glycogen but this storage is not available for blood glucose directly and therefore will not be discussed here. Glucose may go through a process of glycolysis in the peripheral tissues for energy needs.

The hormonal controls are derived from the pituitary, thyroid, pancreas, and adrenal cortex and medulla. Suffice it to say that the pituitary, adrenal cortex, and thyroid stimulate the process of neoglucogenesis. Insulin from the pancreas tends to inhibit the neoglucogenic process produced by the pituitary, adrenal cortex, and thyroid glands. It also catalyzes the peripheral utilization of glucose. Epinephrine from the adrenal medulla works as an emergency measure to produce glycogenolysis and supply glucose for emergencies that are usually assigned to the sympathicoadrenal system.

The enzyme system principally involved in glycogen formation and glycogen breakdown works in the following manner: The first step in glycogen formation is the production of glucose-6-phosphate by the interaction of adenosine triphosphate and glucose. This process is catalyzed by the enzyme hexokinase. Glucose-6-phosphate is known as the Robinson-Embden ester.

The second step is the transformation of glucose-6-phosphate to glucose-1-phosphate by an intramolecular shift of the phosphate group from the 6 position to the 1 position. The enzyme which catalyzes this reaction is phosphoglucomutase and requires either magnesium or manganese ions for its activity. Glucose-1-phosphate is known as the Cori ester.

Glucose-1-phosphate is then converted into glycogen by the action of the enzyme phosphorylase which occurs in large quantities in the liver.

The hormonal influence from the pituitary is capable of inhibiting hexokinase activity and the adrenal cortex seems to prolong this process of inhibition. If this occurs glycogen formation is halted.

The process of glycogenesis is a reversible one and goes through the same process in reverse for glucose formation. It seems that this process is very rapid in either direction and is in constant dynamic equilibrium normally.

The phosphorylation process occurs in the intestinal wall during absorption of glucose and in the kidney during reabsorption of glucose from the glomerular filtrate. The thyroid secretion increases the

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rate of phosphorylation from the intestinal tract. This is important in the hyperthyroid or hypothyroid states and glucose tolerance.

The etiology of diabetes mellitus, although poorly defined at this time, would seem to be linked with some error in the foregoing discussed mechanisms of carbohydrate metabolism. It is very possible that various points of error might result in the diabetic state either functional or organic in nature.

At present there is no known specific lesion of the pancreas which can be said to be characteristic of diabetes mellitus. Various lesions have been found in the islands of Langerhans, but these are not consistent pathological findings. This has been the one major factor in the delay in further understanding of the diabetic state.

Diabetes mellitus may be diagnosed when persistent hyperglycemia and glycosuria are present. Further clinical signs and symptoms as well as clinical laboratory evidence are usually present. Certain physical findings as complications are not infrequently found. The most common subjective complaints include pruritis, either generalized or localized to the genitalia, polyuria, polydipsia, polyphagia, fatigue, weakness, loss of weight, Unschuld's sign or leg cramps, and general irritability. These subjective symptoms vary with the juvenile and obese type of diabetes.

Most common objective findings not including the degenerative changes and complications are vitamin deficiency as evidenced by cheilosis, red fissured tongue, and interdentate papillae swelling, dry skin, dental decay, diminished tendon reflexes of impending neuropathies, scars of recurrent pyodermia, bronzed skin of groin from fungus infections, vaginitis from yeast infections, and obesity in patients of the older age group.

Common complications detectable on physical examinations are epidermophytosis of nails and feet; active pyodermia; loss of positional sense of toes; thick, curled, and ridged nails of lower extremities; changes in skin temperature of lower extremities, due to arteriosclerosis obliterans of diabetes; eye ground changes of diabetic retinopathy; senile cataracts in older obese group; acute diabetic cataract in juvenile group; and enlarged livers in old diabetics.

Common complications detectable by x-ray examination are cholelithiasis, vascular calcification of the lower extremities in arteriosclerosis obliterans, and diminished kidney concentration on intravenous urography.

Clinical laboratory findings include hyperglycemia; glycosuria, which is always present unless the renal threshold is elevated; ketone bodies; hypercholesterolemia; diminished carbon dioxide combining power in ketosis; elevated nonprotein nitrogen in Kimmelstiel-Wilson syndrome; positive results of Hanger's cephalin-cholesterol flocculation test in the obese patient; decreased total serum proteins in obese elderly patients; and pyuria which is frequent because of incidence of pyelonephritis.

The management of diabetic patients is an individualized problem in each case and should be carried out that way. Certain basic principles have to be followed relative to diet, diet supplements, and insulin when needed.

The dietary requirements of children as a general rule are as follows: the daily caloric requirements of a year-old child is approximately 1,000 calories; 100 calories should be added for each year until growth is completed. The protein needs range from 2 to 4 Gm. for each kilogram of body weight; however, a 2:1:1 ratio of carbohydrate, protein, and fat is usually a suitable partition. Insulin is given to all diabetic children.

Usually an adult of normal weight requires 25 calories for each kilogram of body weight to maintain that weight, and additional calories up to 30 to 50 per cent for physical activity may be required Patients below weight should be put on diets calculated to increase their weight to within 10 per cent of normal. When weight reduction is necessary, diets based on a caloric intake of from 16 to 25 calories for each kilogram of body weight will probably suffice. Weight reduction should be accomplished slowly—from 2 to 4 pounds a month.

After calculating the caloric needs of the patient the quantities of carbohydrate, protein, and fat needed to supply these calories in the diet must be determined. The average diet should probably supply about 50 per cent of the total caloric requirement in carbohydrate, 35 per cent in fat, and 15 per cent in protein. Patients having high postprandial sugar levels when carbohydrates supply 50 per cent of the total caloric intake will do better on less carbohydrate and more protein and fat. Any diet should be adjusted to the individual needs of the patient and the foods partitioned into meals according to whether regular or crystalline insulin or a mixture with protamine zinc insulin or some other depot insulin is being used. Thus, when protamine zinc insulin is used, partitioning of food is one-fifth of total calories at breakfast, two-fifths at the noon meal and two-fifths at the evening meal, with a bedtime snack of protein foods. Partitioning of carbohydrates when using globin insulin is two-tenths for breakfast, four-tenths for the noon meal, one-tenth for a midafternoon snack, and three-tenths for the evening meal. The protein and fat should be divided into three equal portions.

When insulin is not used, four meals a day may be advantageous, cutting down the caloric load at each meal and avoiding postprandial hyperglycemia.

Dietary supplements of vitamins should be included as water-soluble vitamin deficiency is generally present in varying degrees. Probably three times the minimal daily requirement will satisfactorily correct the deficiency, if given daily over a period of time.

Insulin, when needed, should be selected for a definite purpose and on the basis of one's own experience in the use of the various kinds. Crystalline insulin is meant for rapid action and is given during ketosis, emergencies of surgical nature, infections, etc., as insulin sensitivity varies from hour to hour and food tolerance is changeable under these circumstances. It may be used under other circumstances requiring multiple daily injections prior to meals or in mixtures with protamine zinc insulin where it supplies the major insulin influence for the first 4 to 8 hours of the day. This latter procedure has become very popular and has answered a great need. These mixtures may be made in the syringe just prior to administration or given separately. Bottle mixtures can be used, although they are not available commercially.

Patients who do not have nocturnal hyperglycemia and who suffer principally from poor tolerance to carbohydrate (food) intake with postprandial elevated glycemic levels may do well on globin insulin. The diet must be adjusted as previously indicated. This

insulin is somewhat variable in its fastigium of action. Its major action, however, is from 8 to 12 hours following administration and insulin effect is present in 1 hour. Among its advantages are the fact that only a single dose is required for 24 hours, action lasts during the food-intake period of the day, and hypoglycemic reactions are most apt to occur during waking hours. This insulin is administered by deep subcutaneous injection.

Protamine zinc insulin is best used for patients who need an overlapping action which will cover nocturnal hyperglycemia or those having high fasting levels, usually the juvenile type of diabetic. Hypoglycemic reactions tend to occur during sleeping hours and bedtime feedings should be used in most cases to prevent them. Various technics for evening injection of divided doses of depot insulin have been used with good results, but their success depends on the cooperation of patient and the experience of the physician.

There is no way of knowing the insulin requirement of the patient and hence no dosage schedule can be set down to follow. Probably the best technic is that of starting with from 15 to 20 units of a depot insulin, checking the postprandial blood sugar 2 hours following some specific meal, and gradually increasing the dosage by 5 or more units daily. This amount of increase depends on one's experience in managing diabetic patients and on whether or not they are hospitalized, intelligent, and cooperative. The 2 hour postprandial blood sugar should range from 170 to 210 mg. per cent depending on the patient's general clinical condition and on age and the state of the cardiovascular system. Great care should be exercised not to produce hypoglycemic reactions in patients with degenerative changes in the cardiovascular system, as coronary occlusion is common under these circumstances.

The aim in managing diabetics is to prevent complications; to keep them clinically free of symptoms; to prevent glycosuria above 5 to 10 Gm. in 24 hours; to keep urinary output, in the absence of kidney decompensation, below 2000 cc. daily; and to instruct them well enough that they can live relatively normal lives and earn a livelihood.

I, personally, feel that strict physiological control is ideal but clinically apt to be dangerous. I prefer to take the path midway between Tolstoi's free diet, insulin, and ketone-free patient and those brought down to dangerously strict levels with little margin of safety.

It is very necessary to instruct patients carefully about their disease and to emphasize the fact that it is their problem. Let them know early that you are not taking the responsibility for them. See that they have one of the primers for patients,[3,4] and that they read it and reread it until they have a working knowledge of their disease. A poorly instructed diabetic is always in trouble one way or another.

Diabetics should know how to care for their feet to prevent fungus infection and abrasions, how to check fitting of shoes, etc. In case of illness they must understand how often urine tests should be made. They should know that specimens should be collected 30 minutes after emptying their bladders prior to meals. They should watch for return of clinical symptoms and have ready an emergency diet list for use in case of nausea and food intolerance. The need for continuing insulin when sick from other causes should be emphasized and the necessary changes to be made in dosage and kind of insulin should be understood. Diabetics should be told of the hereditary aspect of their disease and should know that obesity in their children may spell disaster. Also, they should understand that obesity increases metabolic strain and contributes to the complications of diabetes.

SUMMARY

Diabetes mellitus has a poorly defined etiology and is without a specific organic pathological lesion. The diabetic state represents a derangement of the normal metabolism of carbohydrate, protein, fat, salt, water, and vitamins. The management of a diabetic patient should include careful instruction, adequate physical evaluation, classification, and individualized dietary care.

The type of insulin to be used should be selected that best fits the patient's needs according to the physician's experience in its use. The dosage should be adjusted according to the requirements of each patient.

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REFERENCES

1. Bernard, C.: Cited by Duncan, G. C.: Diseases of metabolism. W. B. Saunders Co., Philadelphia, 1947, p. 35.

2. Soskin, S., Allweiss, M. D., and Cohn, D. J.: Influence of the pancreas and liver upon dextrose tolerance curve. Am. J. Physiol. 109:155-165, July 1934.

3. Wilder, R. M.: A primer for diabetic patients. Ed. 8. W. B. Saunders Co., Philadelphia, 1946.

4. Joslin, E. P.: Diabetic manual for doctor and patient. Ed. 8. Lea & Febiger, Philadelphia, 1948.

ADDITIONAL REFERENCES

Best, C. H., and Taylor, N. B.: The physiological basis of medical practice. Ed. 4. Williams & Wilkins Co., Baltimore, 1945.

Cantarow, A., and Trumper, M.: Clinical biochemistry. Ed. 3, revised. W. B. Saunders Co., Philadelphia, 1945.

Collens, W. S., and Boas, L. C.: The modern treatment of diabetes mellitus including practical procedures and precautionary measures. Charles C Thomas, Springfield, Ill., 1946.

Duncan, G. C.: Diseases of metabolism. Ed. 2. W. B. Saunders Co., Philadelphia, 1947.

Kleiner, I. S.: Human biochemistry. C. V. Mosby Co., St. Louis, 1945.

Zondek, H.: The diseases of the endocrine glands. Ed. 4, (second English ed.). Williams & Wilkins Co., Baltimore, 1944.

CRUDE DEATH RATE FOR THE FIRST 9 MONTHS OF 1948

The crude death rate in the United States for the first 9 months of 1948 was estimated to be 10.0 deaths per 1,000 estimated population, according to figures released November 17 by the National Office of Vital Statistics, Public Health Service, Federal Security Agency. The corresponding rate for the same period of 1947 was 10.2.

The majority of the States show increases in the rates between 1946 and 1947, 5 show no change, and 12 show decreases. These rates are crude death rates, representing the total number of deaths per 1,000 estimated midyear population.

Crude death rates are affected by a number of factors in addition to mortality conditions, such as age-race-sex composition in the population and completeness of death registration. Therefore, consideration must be given to these factors in comparing crude death rates either by State or by year. For example, a comparatively high crude rate does not necessarily indicate less favorable mortality conditions.

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OF CONTEMPORARY INTEREST

From time to time the Association, through its publications, finds it necessary and desirable to call to the profession's attention certain articles appearing in current allopathic literature. Sometimes an article is singled out for attention because it contains material which is pertinent to the progress and thinking of the osteopathic physician of today; sometimes the paper is cited because it is so osteopathic in its content that it is difficult to understand how the author has managed to penetrate the "iron curtain" of medical prejudice. A possible explanation for the publication of the latter type of article might be that even members of the medical editorial hierarchy are able to recognize the naivete of the manuscripts and so classify them as innocuous and allow them to appear in their publications.

A review of allopathic literature for the past decade reveals a steady and persistent improvement in the insight of the dominant school as it evaluates what any osteopathic physician worthy of the name knows to be simon-pure osteopathic fundamentals. Allopathic articles of 10 years ago, as Duffell[1] so aptly remarked, "advocated the crudest of technics, based on ignorance of both anatomy and physiology," and he might well have made a similar remark regarding the apparently complete lack of comprehension of the authors of the physics involved in the physiological motions of the spine.

Current articles indicate a somewhat more clear appreciation of low-back problems and kindred pathological conditions, but the authors persist in ignoring (if they ever understood) fundamental principles involved in the diagnosis and treatment of aberrant structure and function of the human spine. This is certainly manifested by their complete lack of ability to manipulate the spine with any degree of dexterity, which probably explains their all too frequent disappointing results.

In the June issue of THE JOURNAL, R. C. McCaughan commented editorially at considerable length on "Manipulative Therapy in Orthopedics" by Jerome G. Finder, M.D.[2] Dr. McCaughan concluded, "Finder's article should be read by the D.O., because it evidences a desire on the part of the orthopedist at least to utilize manipulation in therapy. But is there any good reason why old-school medicine should travel the hard way to reach a 'modern' concept of the role of abnormal structure in the causation of disease? . . . Let anyone truly recognizing the possibilities inherent in normalization of the structures of the body through manipulative or other technics read the basic studies already available."

In the May JOURNAL Dr. McCaughan reviewed, also editorially, material which appeared in the "Queries and Minor Notes" section of the *Journal of the American Medical Association*.[3] This contribution was quite fittingly evaluated as follows, "We suspect an assistant editor must have made a mistake and included these columns under the head 'Queries and Minor Notes' when instead, as an example of the humorously ridiculous, it should have been run under the more appropriate heading of 'Tonics and Sedatives.'"

Also in the May JOURNAL there appeared an abstract of an article by David Davis.[4] This paper belongs to the first category of allopathic publications mentioned in the opening paragraph of this editorial. It should be given serious attention by every osteopathic physician. Another article[5] falling into this classification was reviewed in the January JOURNAL by George W. Northup.

W. F. Strachan reviewed an article[6] on physical treatment of backache in the June JOURNAL. While he characterizes the article as "incomplete and, therefore, misleading," he considers it will be of value to M.D.'s and of interest to D.O.'s.

Some of these articles would seem to indicate that some members of the dominant school of medicine are learning by experience that manipulation is not something to be left to the physiotherapist. Some time they may even begin to comprehend something of osteopathic philosophy. Perhaps some day they may become mentally alert and intellectually honest enough to cast aside bigotry and prejudice and really make a sincere attempt to live up to the Hippocratic oath and bring to suffering humanity everything good in diagnosis and therapy—including a thorough knowledge of the osteopathic lesion.

In the meantime, their blind obstinance results in their complete disregard for the obvious. Grant[7] put it so succinctly when he said:

It is obvious to anyone who will review the rather voluminous literature covering allopathic investigation into spinal

1. Duffell, R. E.: Kicking oneself to health. J. Am. Osteop. A. 36:373, April 1937.

2. Finder, J. G.: Manipulative surgery in orthopedics. S. Clin. North America 29:243-259, Feb. 1949.

3. Queries and Minor Notes: The status of osteopathy as a special method for low back pain. J. Am. M. A. 139:969, April 2, 1949.

4. Davis, D.: Spinal nerve root pain (radiculitis) simulating coronary occlusion, a common syndrome. Am. Heart J. 35:70-80, Jan. 1948.

5. Treatment of painful disorders of skeletal muscle. Conferences on Therapy, Department of Pharmacology and Medicine of Cornell University Medical College and New York Hospital. New York State J. Med. 48:2050-2059, Sept. 15, 1948.

6. Kottke, F. J.: Physical treatment of backache. J. Am. M. A. 139:1055-1057, April 16, 1949.

7. Grant, J. H.: What lumbosacral x-rays show. J. Am. Osteop. A. 46:231, Dec. 1946.

and particularly lumbosacral dysfunction, that there still remains a mysterious unknown entity that produces spinal and nerve pain, that can narrow intervertebral foramina, that produces relative limitations in motion of specific vertebral segments and that responds, strangely enough, to the apparently 'indiscriminate ministrations' of osteopathic physicians, but yet cannot be associated with any demonstrable anatomic abnormality. Could it be that this void in their chain of pathologic events is the much maligned, never understood, osteopathic lesion?

E. H. McKenna, D.O.

OSTEOPATHIC OBSTETRICS

This issue of The Journal contains a supplement contributed by the American College of Osteopathic Obstetricians and Gynecologists. This supplement, like those of other specialty groups, is offered to the profession as a whole to aid in keeping abreast of developments in a particular field of practice.

The supplement focuses attention on the advantages of osteopathic care for pregnant and parturient women. These advantages are not new developments. Louisa Burns,[1] speaking of the early years of osteopathy, says, "We treated pregnant women and found that they produced better babies after shorter labor with fewer lacerations and a lower death rate than did their neighbors." But the benefits which osteopathy can bring to mothers and their babies cannot be emphasized too often.

Recently the National Office of Vital Statistics released the figures on maternal mortality in the United States for 1947. The rate was 1.3 per 1,000 live births, the lowest ever reported for the United States or for any other country. The risk of dying with childbearing has been declining since 1933, the first year in which data are available for the entire continental United States. From 6.2 in 1933, the maternal mortality rate has decreased 79 per cent to 1.3 in 1947.

A report on osteopathic obstetrics for 1947 was recently released by the Committee on National Obstetrical Statistics of the American College of Osteopathic Obstetricians under the chairmanship of Bernard Abel. This, the first annual report, was based on answers to questionnaires which were sent to registered osteopathic hospitals and registered osteopathic hospitals approved for the training of interns. The analysis was made from questionnaires returned from 114 hospitals where 29,190 babies were delivered in 1947.

The 29,190 births were attended by 1767 osteopathic physicians, nearly all of whom were general practitioners. In the series there were 282 twin and 4 triplet births. There were 35 maternal deaths, or slightly less than 1.2 maternal deaths for each 1,000 births. There were 1,065 infant deaths of which 430 were stillbirths and 376 were due to prematurity. Thus there were approximately 1.24 maternal deaths per 1,000 live births.

While under any circumstances the figure of 1.24 per 1,000 live births compares most favorably with the national figure of 1.3, it stands up even better when the location of osteopathic hospitals is considered. Many osteopathic hospitals are located in small cities and towns where the majority of deliveries take place in the home and hospitals are likely to be utilized for cases where complications are anticipated or where difficulties have already arisen.

The Committee on National Obstetrical Statistics summarizes its findings as follows: "The general osteopathic practitioner in the average well-managed osteopathic hospital can secure excellent results in obstetrics." That the osteopathic physician handling pregnant and parturient patients in and out of hospitals can secure excellent results is borne out by the papers included in the Obstetrics and Gynecology Supplement included in the Journal.

1. Burns, L.: Osteopathic unity. J. Am. Ostep. A. 48: 578, July 1949.

THE 1950 PROGRAM CHAIRMAN

C. R. Nelson of Ottawa, Illinois, will be the 1950 chairman of the Program Committee for the Fifty-Fourth Annual Convention at the Stevens Hotel in Chicago during the week beginning Sunday, July 10. Dr. Nelson has taken over at the request of President-Elect H. Dale Pearson who will take over his duties as President at the Convention in St. Louis this month. William A. Ellis, Grand Rapids, Michigan, who was selected for the position of program chairman in July 1948, found it necessary to relinquish the responsibility following an unfortunate accidental injury which interrupted his well-planned task. We can report that he is making good progress and anticipates ultimate complete recovery.

The task of providing a good teaching program of interest and utility to physicians in practice, many of them in some specialty division, is not easy. A large percentage of the profession attends conventions, many members having an unbroken record of attendance for many years and others rarely missing. The chief complaint of registrants is to the effect that there are too many meetings going on at one time and no person can attend them all.

Dr. Nelson, in consultation with the Bureau of Conventions, plans a somewhat altered program which should be of increased interest to every Doctor of Osteopathy who is eligible to attend. Registrations at Chicago conventions are always exceptionally high in part at least because of the centering of transportation in that city. To the ease of transportation thereto and the unusually good convention facilities available in Chicago, Dr. Nelson and his coworkers will add an irresistible program.

R. C. McCaughan, D.O.

EARLY POSTOPERATIVE AND POSTPARTUM RISING

While early rising after surgical interventions has been the subject of numerous articles in both scientific and lay publications in recent years, the procedure is not a new one. It was advocated as long ago as 1899 by Emil Ries,[1] a Chicago physician. It has been put into practice over a considerable number of years by A. C. Johnson and his coworkers.[2]

Many advantages have become apparent from early ambulation in carefully selected patients. The indications vary with the severity of the alterations produced by the operation and with the preoperative condition of the patient. Obviously patients who have not been

1. Ries, E.: Some radical changes in the aftertreatment of celiotomy cases. J. Am. M.A. 33:454-456, Aug. 19, 1899.
2. Ranney, D. E., Johnson, A. C., and Tavener, W. H.: Experiences with early rising after surgical operation. J. Am. Osteop. A. 46:351-356, Feb. 1947.

debilitated by a long preoperative illness are better able to be out of bed soon after surgery than are those whose health was not good before hospitalization. Also there are various degrees of early ambulation—some patients walk away from the operating table, some are out of bed a few hours postoperatively, and some do who do not walk until 2 or more days after surgery are still considered to be ambulant early.

In this issue of THE JOURNAL Robert E. Sowers[3] writes on early ambulation of the parturient patient. In his own cases, over a period of 5 years, he has seen no single complication which he attributed to early rising. He feels that this procedure is completely compatible with the fundamental principles of osteopathy. He points out the excellent results of regular osteopathic manipulative therapy administered postoperatively and postpartum. Indeed it can readily be understood why, before the practice of early rising was widely known or widely used, patients who received regular osteopathic manipulative therapy after surgery and after delivery recovered faster and with fewer complications than those who did not enjoy its benefits. Early ambulation produces effects similar to those which follow manipulative therapy. By its systemic effects osteopathic manipulative therapy helps maintain circulatory, nervous, and muscular normalcy and relieves venous congestion and its complications.

In the final analysis the decision as to whether early rising should be employed becomes a matter which can only be decided by the experienced judgment of the physician. No mathematical formula exists for measuring the factors entering into the decision. The advantages of the method, wisely applied, include improved psychic condition of patients, reduction of nursing care needed, shortening of the convalescent period, and, consequently, greater economy.

3. Sowers, R. E.: Physiology of early ambulation. J. Am. Osteop. A. 48:595-598, July 1949.

Department of Professional Affairs

BENJAMIN F. ADAMS, D.O.
Chairman
West Hartford, Conn.

COMMITTEE ON SPECIAL MEMBERSHIP EFFORT

STEPHEN B. GIBBS, D.O.
Chairman
Coral Gables, Florida

The response to the first 1949-50 dues notice, mailed in May, has been most gratifying. Early payment of dues not only saves time and postage, but is of very great help in reporting on the membership status of doctors whose names are on the various lists constantly being sent to the A.O.A. office for checking—i.e. professional liability insurance companies, specialty certifying boards, specialty colleges, specialty societies, Academy of Applied Osteopathy, state licensing boards, states participating in Veteran's Out-Patient Care, convention program appearances, insurance departments of various states, hospital staff members for Bureau of Hospitals, applicants for Department of Medicine and Surgery of Veterans Administration, U. S. Public Health Service, State Workman's Compensation, etc.

As you can deduct from the foregoing, osteopathic physicians are participating in the public health service on a wide scale. Those who maintain continuous affiliation are becoming increasingly aware of the services and advantages of membership. As chairman of your Committee on Special Membership Effort, I often wonder how an osteopathic physician in these times can afford not to belong to his National Association.

MEMBERSHIP REPORT AS OF JUNE 1, 1949

Membership count, May 1, 1949		7,696
Applications received in May, 1949	17	
Graduated licensed in May, 1949	3	
	20	
Deaths and Resignations in May, 1949	6	
Gain in May, 1949		14
Membership count, June 1, 1949		7,710

HONOR ROLL

Thomas Berwick	Dorothy Marsh
Vincent Carroll	H. Dale Pearson
B. C. Devilbiss	H. S. Sterrett, Jr.
E. J. Elton	Ray H. Thompson
Stanley B. Koerner	Raymond Whalley

Department of Public Affairs

VINCENT P. CARROLL, D.O.
Chairman
Laguna Beach, Calif.

BUREAU OF PUBLIC EDUCATION ON HEALTH

JOHN P. WOOD, D.O.
Chairman
Birmingham, Mich.

SIGNIFICANT PUBLIC HEALTH LAWS ENACTED WITHIN THE PAST YEAR

The practice of the healing arts in the forty-eight states has become by and large completely subject to various regulatory laws. The osteopathic profession in this country, therefore, constituting one of the major complete schools of practice must keep itself informed concerning the various laws enacted regulating its practice. No single report could encompass all the significant public health laws enacted throughout this country since the time of the last report of a year ago. A brief resume, however, of important laws enacted will serve as a reminder to osteopathic physicians that these laws do have a significant effect upon their right to practice the profession for which they have been trained and educated in the six approved osteopathic colleges.

Prior to this year, some nineteen states and the District of Columbia had enacted a preliminary regulatory law known as the Basic Science Law. In the states which have enacted this type of law a practitioner of the healing art must first secure a certificate from the Basic Science Board before he is eligible to apply to the licensing board regulating his profession for a license to practice. This year the State of Texas was added to the list of nineteen states which possess a Basic Science Law.

In four states laws were enacted making major changes to the regulatory system for the practice of osteopathic physicians and surgeons. In Arizona, Senate Bill 100, enacted into law a new act regulating the practice of osteopathic physicians and surgeons. This law is entitled: "The Medical Practice Act for Osteopathic Physicians and Surgeons." The new law establishes educational and professional requirements commensurate with the present day education and training in osteopathic colleges and ensures in that state the unhampered practice of osteopathy. In South Dakota a new law established a "South Dakota State Board of Medical and Osteopathic Examiners" regulating the practice

of both allopathic and osteopathic physicians. This law repealed the Medical Practice Act and Osteopathic Practice Act formerly regulating the practice of these physicians and provides, in the future, for the licensing of osteopathic physicians in the practice of "osteopathic medicine, surgery, and obstetrics." In Wisconsin, the law regulating the practice of both osteopathic and allopathic physicians was amended so as to make uniform the type of license issued to practioners of both schools. The new license will be one to practice "medicine and surgery." Provision is made by which persons licensed in that state to practice osteopathy and surgery at the time of enactment of the amendment may also secure the new type of license. In Oregon, the law relating to the practice of osteopathic physicians was amended so as to require after July 1, 1949, an internship of 1 year in a hospital approved by the American Osteopathic Association as a requirement for licensure. Recognition was given in these amendments to the certificate of the National Board of Examiners for Osteopathic Physicians and Surgeons. In addition, specific provision was made in the law exempting interns and resident physicians from being required to procure a license from the regulatory board.

In Vermont this year, a new State Health Commission was established and the membership of this commission was so constituted as to require that one of the members be a person "licensed to practice osteopathy, surgery, and obstetrics in the State." West Virginia passed a similar law creating a new State Board of Health, one of the members of which must be an "osteopathic physician."

A vast majority of the public health laws enacted during the past year related to the extension of state aid and assistance into the special fields of illnesses and diseases which have come to take such an extreme toll upon the health of the people of this country. In the past, particular emphasis has been placed upon the diseases of cancer, tuberculosis, and cerebral palsy. During the current year emphasis has been placed upon the disease of alcoholism. The states of Arkansas, Utah, New Mexico, Rhode Island, Michigan, and Colorado all enacted laws relating either to the establishment of facilities for the care of persons addicted to alcohol or to the creation of special commissions to study and report upon the manner and means by which the various states can assist their people in checking the spread of this disease.

Colorado, Michigan, Oklahoma, and Kansas enacted legislation providing for an extension of the care of crippled children. In particular, the State of Kansas by enacting House Bill 181 specifically recognized in that law the need for the inclusion of the services of osteopathic physicians within the care granted to crippled children.

The field of mental health continued to receive considerable attention. Three states in amending the laws relating to mental health recognized the need for allowing all qualified physicians to be available to serve the people of the state in the care and certification of mental illness. Specifically the states of Michigan, Oregon, and Nevada in enacting legislation relating to mental health recognized the right of all qualified "physicians" to participate in the operations of the mental health law.

In the past, the Workmen's Compensation Act and the Unemployment Compensation Law have been the main source of assistance to the worker or employee out of work either through accident occurring during employment or through lack of available work. At the present session innumerable laws were introduced providing for the payment of cash sickness benefits to an employee out of work due to an illness or accident not incurred in the course of his employment and thus covered by the Workmen's Compensation Act. Prior to this year the states of Rhode Island, New Jersey, and California had already enacted what has come to be commonly known as cash sickness disability benefit laws. In the past year the states of New York and Washington also enacted into law disability benefits laws providing for cash benefits to employees out of work due to illness or accident. In both the new laws the services of osteopathic physicians will be recognized as available to the employee for certification of their illness. It is likely that in the other states legislation similar to that enacted in New York and Washington will receive recognition in the years to come. These laws furnish a security for the worker and his family during time of illness and accident which otherwise would become a matter for public agencies or the state to care for in many instances.

The profession has already become well acquainted with the various medical and hospital service corporation laws. In some states the osteopathic profession has been specifically recognized as being one of the healing art professions whose services must be included within any plan. The laws relating to the establishment of medical service corporations in New Jersey, Ohio, Iowa, and Wisconsin specifically require the inclusion of osteopathic services within all plans. During the past year Pennsylvania saw fit to amend its law relating to the establishment of medical service corporations by changing the name of the law to read "The Non-Profit Medical and Osteopathic Service Corporation Act" and requiring that such corporations must furnish both the services of "doctors of medicine" and "doctors of osteopathy." This law is a further indication that adequate health care can only be considered obtainable if the services of all qualified physicians and surgeons are made available to the public for their health care.

This short review of important laws will indicate to a member of the osteopathic profession intending to move from one state to another that he must consider the changing laws in the various states. To the physician and surgeon who has settled in the town or city of his choice, the increase in public health laws places upon him an additional burden to keep abreast of such significant changes in public health laws as are briefly outlined above in order that he may most effectively furnish his services to the people of the state.

Department of Public Relations

CHESTER D. SWOPE, D.O.
Chairman
Washington, D. C.

FEDERAL AID FOR MEDICAL EDUCATION

Hearings on the medical education aid provisions of Title I of the House and Senate versions of the Thomas-Dingell bills (S. 1679; HR. 4312-3) and related bills (S. 1581; HR. 3894) were opened the week of June 6 by the House and Senate subcommittees in charge of the bills. On June 10 during the course of the hearings before the Subcommittee on Public Health, Science, and Commerce of the House Interstate and Foreign Commerce Committee, Dr. Otterbein Dressler, Dean of the Philadelphia College of Osteopathy, and immediate past president of the American Association of Osteopathic Colleges, made the following statement:

"We sincerely appreciate your invitation to express our views in connection with the medical education aid provisions of HR. 3894 and Title I of the twin bills HR. 4312 and HR. 4313.

In order to simplify my statement I shall confine my references specifically to Title I of HR. 4312.

The bill amends the Public Health Service Act to authorize three types of assistance, namely, aid for operation, construction, and scholarships.

As so amended, Section 372 of the Public Health Service Act would authorize grants to medical schools for costs of instruction on substantially the following basis: for 3 years ending June 30, 1952, payments would be made at the annual rate of $300 per student for such number of students as the particular institution averaged in full-time attendance during the fall semesters of the preceding 3

years, and $1700 for each student which shall be enrolled in excess of such average past enrollment. The amount of payments after 3 years would depend on legislation to be based on the results of a study provided for in the bill. Payments would be limited to 50 per cent of the costs of undergraduate training, exclusive of operation of hospitals and research.

In addition to being public or nonprofit and Federal-income-tax-exempt, a school must be accredited by a body approved by the Surgeon General after consultation with a National Council on Education for Health Professions provided for in the bill. That might put the Surgeon General in the accrediting business, which has heretofore been in the last analysis left in the hands of the examining boards of the various States. We suggest that a public or nonprofit-tax-exempt school whose graduates are eligible for licensure in a majority of the States ought to be eligible. Such a formula for accreditment is already a part of the Public Health Service Act. Section 5 (b) of the Act of February 28, 1948, amending the Public Health Service Act, reads in part as follows:

> Graduates of colleges of osteopathy whose graduates are eligible for licensure to practice medicine or osteopathy in a majority of the States of the United States, or approved by a body or bodies acceptable to the Administrator, shall be eligible, subject to the other provisions of this Act, for appointment as commissioned medical officers in the Public Health Service.

Section 372 imposes a further condition of eligibility, which I shall discuss presently.

Section 373 would authorize grants for construction and equipment for new schools and for improvement and expansion of present schools, including teaching hospitals and other related facilities and equipment thereof, but not to exceed 50 per cent of the costs. In the case of hospital construction, the bill requires prior application and approval by the State and Federal agencies under the Hill-Burton Act. Such State and Federal approvals would not be subject to the priority restrictions of the Hill-Burton Act nor would the grants be subtracted from the State allotment.

Section 376 provides for scholarships to be assigned under State plans within quotas set by the Surgeon General but affording not less than two scholarships to be assigned by each State in the field involved. The scholarships would include costs of tuition, fees, books and equipment, and subsistence, and would continue until the recipient finished the course offered by the school provided he made continuously satisfactory progress.

Section 382 specifies that there shall be no Federal interference with the curriculum or administration of any school or the admission of applicants thereto, and also provides that neither the Surgeon General nor any State agency may influence an applicant for or recipient of a scholarship in connection with his choice of a course of training or the institution where the course is to be pursued.

Section 217 would create a National Council on Education for Health Professions to consist of the Surgeon General, Commissioner of Education, the Chief Medical Officer of the Veterans Administration, and a representative designated by the Secretary of Defense, as ex-officio members, and twenty members to be appointed by the Surgeon General with the approval of the Federal Security Administrator, ten of the twenty to be selected from five specified fields, including medicine. It would be our suggestion that there should be a Council for each field, since the problems in medicine, dentistry, nursing, sanitary engineering, and public health education are in many respects peculiar to each field. This is especially true in the case of colleges not associated with universities.

Possibly through inadvertence the authors of the pending legislation failed to include colleges granting the degree of Doctor of Osteopathy as medical schools eligible for aid under the bill. Aid for costs of instruction and aid for scholarships are expressly restricted to medical schools providing training leading to the degree of Doctor of Medicine. The aid for construction section being in the company of such restrictive applications of the term medical schools would probably be construed as taking on the same exclusive character.

I say possible inadvertence, because I cannot believe the authors of this legislation would deliberately confine participation to one school of practice to the exclusion of another when both are engaged in comparable training of physicians. In legislating for the District of Columbia, Congress specifically declared: "The degrees Doctor of Medicine and Doctor of Osteopathy shall be accorded the same rights and privileges under governmental regulations." (Sec. 12, Public Law 831, 70th Congress).

We suggest that the bill be amended after the word "medicine", line 1, page 13, and line 13, page 23, by adding the words "or of Doctor of Osteopathy".

The declaration of policy on page 10 of the bill states "there is a shortage of physicians." On page 11 it declares that the costs of providing adequate professional training and facilities are so high and the sources of income of the schools affording such training are so limited as to render it impossible for schools training physicians to operate at present capacity on a financially sound basis. The policy statement concludes that it is indicated that the United States take steps to assist schools training such physicians, in meeting the costs of instruction and giving financial assistance for construction and equipment of new schools and the expansion of existing schools and to provide scholarships to induce greater numbers of qualified students to enter in training for physicians.

There are six accredited colleges of osteopathy and surgery, all nonprofit and exempt from Federal income taxes, located as follows:

Chicago College of Osteopathy, Chicago, Illinois
College of Osteopathic Physicians and Surgeons, Los Angeles
Des Moines Still College of Osteopathy and Surgery, Des Moines, Iowa
Kansas City College of Osteopathy and Surgery, Kansas City, Mo.
Kirksville College of Osteopathy and Surgery, Kirksville, Mo.
Philadelphia College of Osteopathy, Philadelphia

Each of these schools trains physicians for the practice of the healing art in all its branches. In some twelve of the States their graduates are expressly licensed to practice medicine. It would be palpably unfair to extend Federal aid to one class of medical institutions training physicians for practice in those States while withholding it from another class whose trainees are granted the same licenses to practice. In more than a dozen other States, the graduates of these colleges are granted certificates as osteopathic physicians and surgeons and licensed to practice the healing art in all its branches including obstetrics, drug therapy, and major surgery. In the remaining States the graduates are licensed to practice, in most of which their license includes obstetrics and minor or major surgery. All States license osteopathic graduates.

That these colleges provide training comparable to that furnished in schools granting the degree of Doctor of Medicine is evidenced by the fact that a number of State medical examining boards have inspected the colleges and found them to be giving training of such comparable scope and quality, after which their graduates were admitted with graduate doctors of medicine to State medical examinations and awarded licenses to practice medicine and surgery. The Administrator of Veterans Affairs in carrying out his duties under the law establishing the Department of Medicine and Surgery made a sufficient investigation to justify recognition of all these colleges of osteopathy and surgery as training institutions for physician appointees in the Medical Service of the Veterans Administration. As a result, licensed osteopathic physicians in all the States are granted authorization to render outpatient services for veterans with service-connected disabilities, and at least six osteopathic physicians have been appointed and are serving in the Medical Service of the Veterans Administration. The pertinent provision of the Veterans Administration law, Public Law 293, 79th Congress, reads as follows:

> Section 5. Any person to be eligible for appointment in the Department of Medicine and Surgery must . . . In the Medical Service —hold the degree of doctor of medicine or of doctor of osteopathy

from a college or university approved by the Administrator, have completed an internship satisfactory to the Administrator, and be licensed to practice medicine, surgery, or osteopathy in one of the States or Territories of the United States or in the District of Columbia. . . .

In 1938 Congress expressly included doctors of osteopathy within the term "physician" for the purpose of rendering service for government beneficiaries under the United States Employee's Compensation Act.

Soon after the outbreak of World War II the Selective Service System requested the Office of Production Management to investigate the essential character of osteopathic practice and the finding was that inasmuch as they are trained and licensed in obstetrics and surgery their practice should be accounted an essential activity. Later in the War, the Selective Service System expressly recognized the practice of osteopathic physicians as a critical occupation. A special bulletin was issued grouping together medicine, dentistry, osteopathy, and veterinary medicine as critical occupations, the training for which was of such critical importance to the national interest that not only the students in these colleges were made deferrable but deferrability was extended to include those taking pre-professional college work in preparation for entrance into the professional colleges.

It is my honor and privilege to be a member of the Healing Arts Educational Advisory Committee which was established in the fall of 1948 by the Director of Selective Service. That committee contains representatives of the American Medical Association, the Association of American Medical Colleges, the Association of American Dental Schools, the American Veterinary Medical Association, and the American Osteopathic Association. The committee unanimously advised the Director of Selective Service that the national interest will require graduates of medicine, dentistry, veterinary medicine, and osteopathy annually in numbers equal at least to the present level. (Local Board Memorandum No. 7, issued November 2, 1948).

All osteopathic colleges require not less than 2 years preprofessional college education. The Bureau of Professional Education and Colleges of the American Osteopathic Association recommends that preosteopathic students complete 3 years of work. An average of over 60 per cent of osteopathic matriculants in 1947 and 1948 had completed 3 or more years preprofessional college work and most of that number had obtained baccalaureate degrees.

The freshmen who entered osteopathic colleges in 1948 received their preprofessional training in colleges in 42 States, the District of Columbia, and 3 Canadian provinces, and the 528 freshmen represented 236 liberal arts colleges and universities.

The professional course in osteopathy and surgery extends over a minimum of 4 years. Graduates receive their intern training in 64 accredited intern-training hospitals.

The cost of training in osteopathic colleges for the fiscal year 1948 exceeded 3 and 1/3 million dollars, less than 25 per cent of which was paid for by tuition and fees. There are less seniors this year than any other years because that class entered during the time when preprofessional students were not deferred by Selective Service. For a number of years the average number of degrees granted exceeded 400. The current class is less than 150.

Like most of the medical schools, osteopathic colleges receive no assistance from public funds. Instead they are dependent on the generosity of alumni and charitable institutions, and these sources are becoming less and less sufficient. Deficit financing is a necessity. More and more time and effort by college administrative personnel that should be devoted to operational purposes must be spent in fund raising.

In the meantime, costs have multiplied. Faculty members are serving at a sacrifice. Indeed, unless some such assistance as that proposed in this bill is made available our faculties will be depleted. We are in desperate need of expanding our outpatient teaching departments, our laboratories and classrooms. Our equipment needs replacement. Much of it is obsolete.

Adequate training of physicians to care for the health of the people is a tremendous responsibility. The needs are great.

In concluding my statement, may I refer to another pending bill HR. 3828 entitled "Federal Aid to Medical Education Act of 1949," introduced by Mr. Wheeler of Georgia, which defines the term "approved colleges and schools" to mean "colleges and schools of medicine, surgery, osteopathy, and dentistry which are approved by the Board."

UNITED MEDICAL ADMINISTRATION

On page 491 of THE JOURNAL for May, 1949, will be found an account of the report made to Congress by the Commission on Organization of the Executive Branch of the Government, popularly known as the Hoover Commission. The first recommendation of the Commission calls for "the establishment of a United Medical Administration into which would be consolidated most of the large-scale activities of the Federal Government in the fields of medical care, medical research, and public health (in which we include preventive medicine)." On June 7, 1949, Senator Thomas of Utah, Chairman of the Senate Committee on Labor and Public Welfare, introduced a bill to carry out this recommendation of the Commission as follows:

81ST CONGRESS—1ST SESSION—S. 2008

IN THE SENATE OF THE UNITED STATES

JUNE 7 (LEGISLATIVE DAY, JUNE 2), 1949

MR. THOMAS OF UTAH (BY REQUEST) INTRODUCED THE FOLLOWING BILL WHICH WAS READ TWICE AND REFERRED TO THE COMMITTEE ON LABOR AND PUBLIC WELFARE

A BILL

To consolidate certain hospital, medical, and public health function of the Government in a United Medical Administration.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "United Medical and Hospital Administration Act".

UNITED MEDICAL ADMINISTRATION

SEC. 2. (a) There is hereby established an agency in the executive branch of the Government which shall be known as the United Medical Administration, at the head of which shall be an Administrator who shall be appointed by the President by and with the advice and consent of the Senate, receive compensation at the rate of $———— per annum, and perform his functions subject to the direction and control of the President.

(b) There shall be in the United Medical Administration three Assistant Administrators, who shall be appointed by the President by and with the advice and consent of the Senate, receive compensation at the rate of $———— per annum,, and perform such functions as the Administrator shall direct.

(c) The Administrator is authorized, subject to the civil-service laws, rules, and regulations, to employ such personnel (other than those provided for in section 5 of this Act) as may be necessary to carry out the provisions of this Act.

(d) The Administrator shall establish special advisory and other committees and groups composed of members of the medical and allied scientific professions, whose duty shall be to advise the Administrator, or such officers of the United Medical Administration as the Administrator may designate, with respect to matters pertinent to the duties of the United Medical Administration. The number, terms of service, compensation, and allowances to members of such advisory committees and groups shall be prescribed by the Administrator.

(e) The United Medical Administration shall be entitled to the free use of the United States mails to the same extent as the executive departments.

(f) The Administrator shall make an annual report to the President and to the Congress.

ADVISORY BOARD

SEC. 3. (a) There is hereby established an advisory board to the Administrator, consisting of the Administrator of Veterans' Affairs, the Surgeon General of the Army, the Surgeon General of the Navy, and the Air Surgeon, or their designated representatives. The Administrator shall meet with the advisory board at least once in each calendar month, and consult with such board with regard to policies and proposed policies of the United Medical Administration.

(b) The advisory board is authorized to employ an executive secretary, and such clerical and stenographic personnel to assist the executive secretary as may be necessary.

CONSOLIDATION OF MEDICAL AND HOSPITAL FUNCTIONS IN ADMINISTRATION

SEC. 4. (a) There shall be transferred to the United Medical Administration—

(1) all functions and facilities of the Public Health Service, all functions of the Surgeon General of the Public Health Service, and all functions of the Federal Security Administrator in relation to the foregoing;

(2) all hospitals of the Veterans' Administration, all facilities of such Administration for out-patient services to veterans, and all functions of the Veterans' Administration and the Administrator of Veterans' Affairs in relation to the foregoing;

(3) all general hospitals of the Army in the continental United States (excluding Alaska) except one such hospital designated by

the Secretary of the Army to be retained as an Army medical center; all station hospitals of the Army in the continental United States (excluding Alaska) except station hospitals at outlying posts designated by the President as being so located that other hospitals of the United Medical Administration would not be near enough to provide the care required; and all functions of the Secretary of Defense, the Secretary of the Army, and the Surgeon General of the Army in relation to the foregoing;

(4) all general hospitals of the Navy in the continental United States (excluding Alaska) except one such hospital designated by the Secretary of the Navy to be retained as a Navy medical center; all dispensaries of the Navy in the continental United States (excluding Alaska) denominated "general dispensaries"; and all other dispensaries of the Navy in the continental United States (excluding Alaska) except dispensaries at outlying posts designated by the President as being so located that other hospitals of the United Medical Adminisration would not be near enough to provide the care required; and all functions of the Secretary of Defense, the Secretary of the Navy, and the Surgeon General of the Navy in relation to the foregoing;

(5) all station hospitals of the Air Force in the continental United States (excluding Alaska) except one such hospital designated by the Secretary of the Air Force to be retained as an Air Force medical center, and except station hospitals at outlying posts designated by the President as being so located that other hospitals of the United Medical Administration would not be near enough to provide the care required; and all functions of the Secretary of Defense, the Secretary of the Air Force, and the Air Surgeon in relation to the foregoing;

(6) the four civilian hospitals in the Canal Zone under the jurisdiction of the Panama Canal, the dispensaries, clinics, health centers, laboratories, and other facilities of the Department of Health of the Canal Zone, and all functions of the Panama Canal and such Department of Health in relation to the foregoing;

(7) Saint Elizabeths Hospital in the District of Columbia, and all functions of the Federal Security Administrator in relation thereto.

(b) Functions transferred to the United Medical Administration under subsection (a) shall be vested in the Administrator, and be exercised by him through such officers and units of the United Medical Administration as he may designate.

(c) The property, records, and unexpended balances of appropriations, allocations, and other funds (available or to be made available), and the personnel, which the Director of the Budget shall determine relate primarily to the functions transferred by subsection (a) are transferred to the United Medical Administration for use in the administration of the functions so transferred. Any of the personnel transferred which the Administrator of the United Medical Administration shall find to be in excess of the personnel necessary for the administration of the functions transferred to the United Medical Administration shall be retransferred under existing law to other positions in the Government or be separated from the service. When personnel of the armed forces are transferred under this subsection, such transfers shall be only for such periods as the President determines may be necessary to assure that the hospitals transferred remain at all times adequately staffed.

(d) Any member of the Army, Navy (including the Marine Corps), or the Air Force, or of any reserve component of either when in an active-duty status, may be assigned or detailed for duty or training in the United Medical Administration. The assignment or detail, or the transfer, of any such member to the United Medical Administration shall be without loss of or prejudice to his status in the Army, Navy, or Air Force, or reserve component thereof.

PROFESSIONAL PERSONNEL

SEC. 5. (a) There shall be established in the United Medical Administration a professional career service to be known as the United Health and Medical Services. Persons appointed in the United Health and Medical Services shall be subject to the provisions of and entitled to the benefits under the Civil Service Retirement Act of May 22, 1920, as amended, but otherwise shall be subject only to the provisions of this section and the rules and regulations of the President and of the Administrator promulgated or issued pursuant thereto.

(b) Any person to be eligible for appointment in the United Health and Medical Services must—

(1) be a citizen of the United States;

(2) for appointment as a physician—hold the degree of doctor of medicine or of doctor of osteopathy from a college or university approved by the Administrator, have completed an approved internship, and be licensed to practice medicine, surgery, or osteopathy in one of the States or Territories of the United States or in the District of Columbia;

(3) for appointment as a dentist—hold the degree of doctor of dental surgery, or its equivalent, from a college or university approved by the Administrator, and be licensed to practice dentistry in one of the States or Territories of the United States or in the District of Columbia;

(4) for appointment as a nurse—have successfully completed a full course of nursing in a recognized school of nursing, approved by the Administrator, and be registered as a graduate nurse in one of the States or Territories of the United States or in the District of Columbia;

(5) for appointment to auxiliary professional positions—hold a bachelor's degree from a college or university approved by the Administrator and have received, either in graduate study or otherwise, special training in scientific subjects determined by the Administrator to be related to the health and medical field and to qualify such person for such position;

(6) for appointment to other auxiliary positions— have such training and experience as health technologists or administrators, and have such other qualifications, as the Administrator may prescribe.

(c) Appointments in the United Health and Medical Services shall be made only after qualifications have been satisfactorily established in accordance with the regulations prescribed by the Administrator. Initial appointments shall be for appropriate probationary periods, to be prescribed by the Administrator, and the record of each person serving under such an appointment shall be reviewed from time to time by an appropriate board, appointed in accordance with regulations of the Administrator, and if such board shall find the appointee not fully qualified and his service not fully satisfactory, he shall be separated from the service.

(d) Promotions of persons within the United Health and Medical Services shall be made only after examination given in accordance with regulations prescribed by the Administrator. Ordinary promotions within grade may be made in increments of the minimum pay of the grade in accordance with regulations prescribed by the Administrator.

(e) Notwithstanding any other law, the Administrator shall by regulation prescribe the hours and conditions of employment, and leaves of absence, of persons in the United Health and Medical Services.

(f) The Administrator, under such regulations as he shall prescribe, shall from time to time appoint boards in the United Health and Medical Services, to be known as disciplinary boards, each such board to consist of not less than three nor more than five persons in the United Health and Medical Services, senior in grade, to determine, on notice and fair hearing, charges of inaptitude, inefficiency, or misconduct of any person employed therein. The Administrator shall appoint the chairman and secretary of the board, each of whom shall have authority to administer oaths. The Administrator may designate or appoint one or more investigators, to assist each disciplinary board in the collection and presentation of evidence. Any person answering charges before a disciplinary board may be represented by counsel of his own choice. A disciplinary board, when in its judgment charges are sustained, shall recommend to the Administrator suitable disciplinary action, within limitations prescribed by the Administrator, which may include reprimand, suspension without pay, reduction in grade, or discharge from the United Health and Medical Services. The Administrator shall either approve the recommendation of the board, approve the recommendation with modification or exception, approve the recommendation and suspend further action at the time, or disapprove the recommendation. He shall cause to be executed such action as he approves, and his decision shall be final.

(g) The powers, functions, and duties of the Administrator under this section shall be subject to and be exercised in accordance with such rules relating to personnel as may be prescribed by the President under section 1753 of the Revised Statutes, as amended.

COMPENSATION SCHEDULES

SEC. 6. (a) Within the limits of such maximum and minimum rates of basic compensation for civilian officers and employees in the executive branch of the Government as Congress may from time to time prescribe, the President is authorized to promulgate from time to time schedules and rules governing the rates of basic compensation to be paid to persons in the United Health and Medical Services. Rules promulgated by the President pursuant to this section shall, to the extent prescribed by the President therein, supersede existing laws, regulations, orders, and directives fixing the rates of pay of the officers and employees covered thereby, or providing for placing their positions in grades or classes for pay purposes.

(b) The Administrator may, as hereinafter provided, rate any person holding a position in the United Health and Medical Services as a specialist, but no person shall at any one time hold more than one such rating. A person so rated as a specialist shall receive, in addition to his basic pay, an allowance equal to 25 per centum of such pay, if and for as long as the major part of his duties involves the practice of such specialty (as determined by the Administrator).

(c) A person serving as a physician in the United Health and Medical Services may be rated as a specialist only if he is certified as a specialist by an American specialty board, recognized by the Administrator where such boards exist, or if no such boards exist, only if he has been examined and found qualified by a board appointed by the Administrator from specialists in the United Health and Medical Services holding ratings in the specialty to which the candidate aspires. If there should be an insufficient number of specialists in the United Health and Medical Services rated in the specialty in question, who are readily available to constitute such a board, the Administrator may substitute consultants with comparable qualifications employed under section 8 of this Act.

(d) A person holding a position other than that of physician may be rated as a specialist only if he is possessed of such advanced or postgraduate training making him specially expert in a particular subdivision of the health field, as the Administrator may prescribe.

DETAIL OF PERSONNEL IN THE UNITED HEALTH AND MEDICAL SERVICES

SEC. 7. (a) The Administrator is authorized to place employees of the United Health and Medical Services in schools of the Army, the Navy, the Air Force, and in civil institutions of learning, with the consent of the authorities concerned, for the purpose of increasing the professional knowledge or technical training of the personnel of the United Health and Medical Services, and, subject to available appropriations, to pay for tuition, transportation, and educational fees of personnel so placed. A person authorized to attend a course of training shall be required to reimburse the Administrator for the expenses

thereof if such person voluntarily leaves the United Health and Medical Services within a period, beginning with the completion of such course, less than three times as long as the period of such training.

(b) Persons in the United Health and Medical Services may, with the approval of the Administrator, as part of their duties attend meetings of associations for the promotion of medical and related sciences, and the Administrator is authorized to pay the expenses, except membership fees, of such attendance.

TEMPORARY OR PART-TIME PERSONNEL

SEC. 8. The Administrator may employ, without regard to the civil-service laws or the Classification Act of 1923, as amended, or any of the other provisions of this Act, physicians, dentists, and nurses on a temporary full-time, part-time, or fee basis, and such other professional, technical, clerical, skilled, and unskilled personnel on a temporary full-time or part-time basis at such rates of pay as he may prescribe. No temporary full-time appointment shall be for a period of more than ninety days.

TEMPORARY PROVISIONS

SEC. 9. (a) The Department of Medicine and Surgery of the Veterans' Administration is abolished, except that persons holding positions in the Medical Service, the Dental Service, the Nursing Service, or the Auxiliary Service of such Department, who are transferred to the United Medical Administration under the provisions of this Act, shall be continued in their present positions until the Administrator shall have determined their qualifications for appointment in the United Health and Medical Services.

(b) The Public Health Service, transferred to the United Medical Administration under section 4, shall continue as such in the United Medical Administration, except that no new commissions therein shall be issued, and any officer therein may resign his commission and accept appointment in the United Health and Medical Services.

EFFECTIVE DATE OF TRANSFERS

SEC. 10. The transfers provided for in section 4 of this Act shall take effect sixty days after the date of the enactment of this Act.

NEW ASSOCIATE CHIEF OF CHILDREN'S BUREAU

On June 2, 1949, Dr. Leona Baumgartner became Associate Chief of the Children's Bureau, succeeding Dr. Martha M. Eliot who has been appointed an Assistant Director General of the World Health Organization.

Serving under Katharine F. Lenroot, Chief of the Children's Bureau, Dr. Baumgartner, who has been Assistant Commissioner of Health in New York City, will have special responsibility for the Bureau's health services.

Dr. Baumgartner will administer the Bureau's $18,500,000 grants to States to extend and improve maternal and child health services and services for crippled children. In addition, she will advise on the Bureau's investigations and reporting of the health needs of children and mothers.

Dr. Baumgartner comes to the Children's Bureau after 12 years of service in the New York City Health Department, including work as a District Health Officer, and as director for 8 years of that Department's Bureau of Child Hygiene. In the latter capacity, she supervised foster homes, children's institutions, and day care agencies, as well as the Department's health services for mothers and children.

Trained as a pediatrician, Dr. Baumgartner has been on the pediatric staff of New York Hospital, is Assistant Professor of Pediatrics, Public Health and Preventive Medicine at Cornell Medical College, and is licensed to practice medicine in New York State.

Kansas University Alumni gave Dr. Baumgartner their Distinguished Service Award for a fellow alumna in 1947, and she won the American Design Award for creative work in designs for living for children in 1945. At the invitation of the French Ministry of Health, Dr. Baumgartner spent some time in that country in 1945 as an advisor on child health.

A member of the Executive Board of the American Public Health Association and Chairman of its Committee on Child Health, she is also a member of the American Academy of Pediatrics and of the American Pediatric Society. In addition to her medical degree, which she obtained at Yale University, Dr. Baumgartner has a Ph.D. in public health, also from Yale, and an M.A. in bacteriology and immunology from the University of Kansas. At Yale she held the Sterling and University fellowship for research; later she spent a year of research at the Kaiser-Wilhelm Institute in Munich, Germany. Before engaging in public health work, she had several years' experience in high school and university teaching.

ALLEN AND MEILING HEAD NME MEDICAL SERVICES DIVISION

On June 7, 1949, Secretary of Defense Louis Johnson announced the appointment of Raymond B. Allen, M.D., President of the University of Washington, Seattle, Washington, as Director of Medical Services for the National Military Establishment, and of Richard L. Meiling, M.D., of the College of Medicine, Ohio State University, Columbus, Ohio, as Deputy Director. They assume their duties in the Office of the Secretary of Defense about July 1, 1949.

In announcing the appointments, Secretary Johnson said, "I am confident that with a Director and Deputy Director of such high calibre and with the aid and counsel of the Armed Forces Medical Advisory Committee, great progress will be made toward the objectives of a more unified and effective medical service for the Armed Forces."

Dr. Allen will continue as Director of Medical Services for 3 months to initiate organization of the recently established NME Medical Services Division, which will coordinate operation of the medical services of the three military departments and related NME agencies. On October 1, Dr. Allen will return to the University of Washington, and Dr. Meiling will be appointed Director of Medical Services. At that time, Dr. Allen will resume his membership on the NME Armed Forces Medical Advisory Committee.

The NME Director of Medical Services, under Secretary Johnson's directive of May 13, 1949, which established the NME Medical Services Division, will have responsibility and authority to establish and control general policies, standards, and programs for the entire National Military Establishment.

Dr. Allen not only is an outstanding member of the medical profession, and an educator with broad administrative experience, but also has unique experience with the problems of military medicine. He was one of the original members of the Armed Forces Medical Advisory Committee when it was formed last December and has been active in its studies of and recommendations concerning problems affecting the Armed Services in the fields of medicine and its allied professions. He also was a member of the National Security Organization of the Commission on Organization of the Executive Branch of the Government (Hoover Commission) which made an intensive study of the military medical services and recommended establishment of a Medical Advisory Board in the Office of the Secretary of Defense. In addition, he is Chairman of the Special Committee on Civil Defense of the Research and Development Board.

Dr. Meiling, who will assist Dr. Allen in the initial organization of the NME Medical Services Division and take over the directorship October 1, also has had long and intimate experience with military medicine. Outstanding in this experience was his work in World War II as the Air Evacuation Officer, Headquarters, Army Air Force in 1942. He then had charge of planning, organization, and administration for air evacuation of patients from battlefields and world-wide stations to hospitals in the United States.

Dr. Meiling was graduated from the Army Air Force School of Aviation Medicine in 1941 and from the Command and General Staff School in 1942. He was one of the original members of the Armed Forces Medical Advisory Committee of the National Military Establishment and served as a medical consultant to the Committee on National Security Organization of the Commission on Organization of the Executive Branch of the Government (Hoover Commission).

The duties of the Director of Medical Services, as defined by Secretary Johnson's directive creating the office, are:

1. Establishment and control of general policies, standards, and programs for the medical services of the three military departments and appropriate agencies of the National Military Establishment.

2. Exercise general direction, authority, and control over administration and utilization of personnel and facilities of the medical services of such departments and agencies through the heads thereof.

3. Such other duties with respect to the medical services of the National Military Establishment as the Secretary of Defense may direct.

Biographical sketches follow:

Dr. Raymond Bernard Allen has been president of the University of Washington, Seattle, Washington, since 1946. He was born in Cathay, North Dakota, August 7, 1902, the son of Anthony J. and Ellen (Faulkner) Allen. He is a graduate of the University of Minnesota, B.S., 1924; M.A., 1925; M.S., M.D., 1928; Ph.D., 1934. Other scholastic honors include LL.D., Tulane, 1946; University of Illinois, 1946; Lake Forest University, 1946.

From 1928 to 1930, Dr. Allen was engaged in general medical practice in Minot, North Dakota. He was a fellow of the Mayo Foundation, 1930-1933; associate dean in charge of graduate studies, College of Physicians and Surgeons, Columbia University, 1934-1936; associate director, New York Post-Graduate Medical School and Hospital, Columbia University, 1933-1936; dean, Wayne University College of Medicine, Detroit, 1936-1939; executive dean, Chicago Professional Colleges of University of Illinois (Medicine, Dentistry and Pharmacy), September 1930-1946; dean, College of Medicine, University of Illinois, September 1943-1946.

Dr. Allen is a fellow of the American College of Physicians and a past member of the Academy of Medicine of New York, the Institute of Medicine of Chicago, and the Detroit Academy of Surgery. He also is a member of Sigma Xi, Alpha Omega Alpha, Phi Delta Kappa, and Phi Beta Kappa (honorary). He is chairman of the Washington State Committee for Reorganization of the Executive Branch of the Federal Government.

Dr. Allen is author of numerous contributions to medical and educational literature.

Dr. Richard L. Meiling has been Assistant Professor, Department of Obstetrics and Gynecology, College of Medicine, Ohio State University, Columbus, Ohio, since 1947. Previously, from October 7, 1940, until 1946, when he became a Colonel in the Medical Corps Reserve, he was in active military service.

Dr. Meiling was born in Springfield, Ohio, December 21, 1908, the son of Lester L. and Matilda (Lobenherz) Meiling. He received his A.B. from Wittenberg College, Springfield, Ohio, in 1930, and his M.D. from the University of Munich, Germany, in 1937. In 1941, Dr. Meiling was graduated from the Army-Air Force School of Aviation Medicine and was graduated from the Command and General Staff School in 1942.

During 1942, Dr. Meiling was Assistant Surgeon, First Air Force and Eastern Defense Command. From 1943 to 1944, he was consecutively Chief, Plans Division, Office of The Air Surgeon, HQ., AAF, Air Evacuation Officer, Hq., AAF, and Special Assistant to The Air Surgeon, Hq. AAF.

In September, 1942, Dr. Meiling was placed in charge of the evacuation of military patients from battlefields and from world-wide stations to hospitals in the United States. Beginning with the evacuation of 20 patients during the first month, by the end of the war more than two million patients had been moved by the Air Force system, which Dr. Meiling planned and set up.

During 1944, Dr. Meiling was Assistant Surgeon, 20th Air Force, and thereafter, through 1945, he was Chief, Morale Division, U. S. Strategic Bombing Survey (Europe). He was awarded the Secretary of War Commendation Ribbon in 1942 and the Legion of Merit in 1945. Following his change to reserve status, in 1946, Dr. Meiling has been serving since 1948 as a consultant to The Surgeon General of the Army and The Air Surgeon.

Dr. Meiling is a diplomate of the American Board of Obstetrics and Gynecology and a member of the Central Association of Obstetricians and Gynecologists, the Aero Medical Association, the Royal Society of Medicine, London, England, the Association for Study of Internal Secretion, the American Medical Association, the Ohio State Medical Association, the Columbus Academy of Medicine, the Columbus Surgical Society, and the Columbus Obstetric and Gynecologic Society. His fraternity memberships include Phi Kappa Psi (college) and Alpha Kappa Kappa (medical).

Dr. Meiling is a member of the American Legion, the Reserve Officers Association, the Air Force Association, and the Air Reserve Officers Association.

NEW CANCER RESEARCH PROJECTS

Factors in the human environment that may influence the development of lung cancer will be studied under a National Cancer Institute grant, Federal Security Administrator Oscar R. Ewing announced June 27. This is one of thirty-six special cancer control project grants, totalling $550,802, approved by Surgeon General Leonard A. Scheele, Public Health Service, following action by the National Advisory Cancer Council.

The respiratory cancer investigation, to be conducted by the California State Department of Public Health, will seek possible causal factors through employment history studies of some 500 lung cancer cases. Where the history of the patient indicates possible occupational exposure, follow-up studies will be made by qualified industrial hygiene engineers and chemists to discover the source of the suspected hazard and the feasibility of protective measures. This study is the sixth investigative project on environmental carcinogens aided by the National Cancer Institute, other aspects of this problem being under study in New York, Pennsylvania, Ohio, Colorado, and New Jersey.

The search for an accurate cancer diagnostic test will be assisted by National Cancer Institute grants to the University of Tennessee College of Medicine and the University of Kansas Medical Center. Many laboratory tests for cancer have been reported. However, many of these have proven unreliable. The others, which may be of value, have not been sufficiently tested. Since early cancer, in many cases, is curable by surgery or radiation therapy, an accurate test for finding early cases would make possible a great reduction in cancer mortality, even without discovery of the long-sought cancer "cure." The purpose of these two projects will be to evaluate a number of reported cancer diagnostic tests and develop those which appear most promising. This work will be coordinated with a University of Washington project already under way with National Cancer Institute aid. Cancer tests to be studied at the three institutions include the recently reported Huggins iodoacetate index test, Black plasma coagulation tests, Black dye reduction test, cholinesterase test, Roffo neutral red test, Munro protective colloid test, and Bendien colloidal vanadate test.

Efforts to discover other cancer diagnostic tests also received National Cancer Institute aid. These include work at the University of Washington on the preparation of suitable antigens for complement fixation tests; test investigations at the Medical College of Alabama; and continued research on the cytologic test for cancer at the University of California under Herbert F. Traut, M.D., who, with George Papanicolaou, M.D., pioneered in the development of this widely accepted technic for finding early uterine cancer.

The special cancer control grants of the National Cancer Institute are available to State and local health agencies, universities, hospitals, and other nonprofit organizations. Their purpose is to assist the development of cancer control methods and services for which local funds are not available.

NEW EDITION OF "PRENATAL CARE"

A completely rewritten edition of "Prenatal Care" was released in June by the Children's Bureau, Federal Security Agency. Oldest of the Bureau's booklets for parents, more than 9 million copies have been distributed since it was first published in 1913.

While earlier editions stressed the need for medical care during pregnancy, they were confined largely to the personal hygiene of the mother, preventing complications, and preparing for confinement, usually for home delivery. Furthermore each point was treated in considerable detail. There was good reason for such specific information. In the early days few mothers were delivered by physicians, much fewer in hospitals. Even as recently as 1935, fewer than 40 per cent of all live births were in hospitals. Detailed directions given in the first editions of the booklet were helpful to midwives, fathers, friends, and others in attendance.

Today, in contrast, about 85 per cent of all live births are attended by physicians in hospitals, and another 10 per cent are attended by physicians outside of hospitals. Accompanying this jump in hospital births has been a substantial

increase in recent years in medical care during pregnancy by physicians, either in private practice or in public clinics.

"Early and continuing medical care is just as important during pregnancy as it has always been," Katharine F. Lenroot, Chief of the Children's Bureau, stated in releasing the latest edition of "Prenatal Care." "But today the concept of good care for the mother and baby has broadened. We think more in terms of maternity care, which includes medical supervision from early pregnancy through the birth of the baby and for several weeks after. Healthy mothers and babies, comfortable pregnancies, and safe outcome of labor and the development of a happy mother-child relationship are the goals of good maternity care."

Pointing out that the booklet is no substitute for medical care, Miss Lenroot said the scope of the new edition has been broadened in order to supplement the advice doctors give expectant mothers and fathers.

Medical drawings of the embryo and the fetus at various stages, included in "Prenatal Care" for the first time, help to explain the discussion of the physical changes in pregnancy. Morning sickness, the Rh factor, premature birth, and the importance of blood tests, are a few of the many things discussed informally in the booklet. The expectant mother is urged to consult regularly her physician, preferably one with special training in obstetrics.

Mental health is discussed at much greater length than in previous editions. One section deals with the thoughts and feelings of the expectant mother, another points out the importance of the father's role, and still another suggests ways to prepare other children for the new addition to the family so they will not feel neglected.

The franker attitude toward pregnancy, as well as the increasing medical care by physicians, makes childbearing easier today. An indication of the franker point of view is the greatly increased demand for "Prenatal Care" in recent years, even in proportion to the larger number of expectant mothers than there were a decade or more ago.

Before publication the booklet was reviewed by a wide range of obstetricians, pediatricians, psychiatrists, nutritionists, nurses, and other specialists, to make sure that it reflects the best current practices in good maternity care.

Running some 60 pages, single copies of "Prenatal Care" are available to parents and professional workers without charge from the Children's Bureau, Federal Security Agency, Washington 25, D. C. Copies may also be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 15 cents each, with the usual 25 per cent discount on 100 or more copies.

PROGRESS IN FIGHT AGAINST DISEASE

Continued success in the fight against many diseases and disabling conditions was forecast by Surgeon General Leonard A. Scheele in the 1948 annual report of the Public Health Service.

The report records progress made by the Service in the prevention and treatment of illness through grants-in-aid to assist the States and local communities in establishing and maintaining community health services and through laboratory, field, and clinical research in medical and related sciences.

The $34,900,000 made available to the States included funds earmarked specifically for mental health programs; control of venereal disease, tuberculosis, and cancer; and industrial hygiene. Payments totaling $575,000 for State-conducted surveys of hospital facilities, under the Hospital Survey and Construction Act, were also included.

Among its laboratory research accomplishments, the Service developed a new drug which may cure relapsing malaria. Study of the action of viruses on bacteria may lead to more effective methods for preventing, diagnosing, and treating virus diseases, such as chickenpox, poliomyelitis, measles, mumps, and smallpox. Definite progress was made in research technics on the common cold, and a new and better vaccine was developed for diphtheria and whooping cough.

Construction went forward on the large clinical center for which Congress authorized $40,000,000. This center will make possible the coordination of fundamental and clinical research in such special problems as cancer, heart diseases, and diseases of the nervous system. Facilities of the center will be open to scientists from other public and private institutions.

Among the outstanding accomplishments in clinical research were the development of a therapy for the toxemia of pregnancy and a technic for control of pain during childbirth in mothers with tuberculosis, heart disease, and debilitating afflictions. This work was carried on in conjunction with graduate courses conducted under the supervision of the Service at two medical centers, where several hundred physicians were trained in the use of continuous caudal analgesia.

Scientists who receive research grants from the Public Health Service likewise reported considerable progress. For example: A drug more effective in some conditions than drugs commonly used has been developed to relieve such allergic reactions as hay fever, rhinitis, and skin rashes. The minimum time necessary for the cure of syphilis may be significantly decreased. Substances have been found to prevent pleurisy. The search for a more effective vaccine against influenza is showing encouraging results. Three important surgical technics have been developed for the treatment of heart disease.

Public Health Service field studies in the control of heart disease should soon yield improved technics and equipment for its early detection. A method for screening for diabetes has been developed, and efforts are under way to simplify testing for diabetes on a mass basis.

In the field of international health, the Service has been closely identified with the World Health Organization.

A Health Emergency Planning Unit was established to draw plans for public health services in peacetime emergencies and to work with other Government agencies in laying the ground work for the protection of the civilian population in periods of national emergency.

The report also recounts new developments—establishment of a National Heart Institute and National Dental Institute, the passage of the Water Pollution Control Act, and increased grants to scientists for research—which may be expected to open additional avenues to better health for the American people.

AUREOMYCIN IN WHOOPING COUGH

Scientists of the Public Health Service, Federal Security Agency, believe they may be on the way to developing a more effective treatment for whooping cough, according to a report contained in the May 13 issue of *Public Health Reports*.

Whooping cough is a universally prevalent disease of childhood for which an effective, easily administered treatment is urgently needed. Current studies indicate that aureomycin, a relatively nontoxic antibiotic which can be given by mouth, may shorten the course of the disease and lessen its intensity.

Work on treatment of pertussis with aureomycin was undertaken at the National Institutes of Health, research branch of the Public Health Service, in December, 1948.

The early favorable results of the laboratory experiments justified a clinical investigation which was promptly undertaken. So far, twenty patients have been treated in their homes with aureomycin, with apparently beneficial results.

Laboratory investigations revealed that aureomycin hydrochloride, when injected under the skin of mice infected with the disease, prevented deaths. Small doses of the drug given at 12-hour intervals over periods of 8 days were more effective than larger doses given over a short period of time.

The preliminary clinical trials suggest that aureomycin given orally shortened the clinical course of the disease when compared with 380 untreated cases. Complete recovery in a few days was observed in some of the cases in which the drug was given early in the course of the disease. In practically all cases, however, a prompt although gradual diminution in the frequency and intensity of severe coughing spells was observed. No unfavorable effects resulted from treatment.

The scientists stated in their report that further clinical trial is necessary before aureomycin's value for general use in whooping cough is established.